ARMY COMMUNICATOR

Directorate of Information Management (DOIM) is now:

NEC

NETWORK ENTERPRISE CENTER

NEW NAME NEW FOCUS

Plus:
- Modernization of Enterprise Satellite Terminals
- A Tale of Two Signal Commands

| | | Form Approved |
| | | OMB No. 0704-0188 |

Report Documentation Page

1. REPORT DATE **2009**	2. REPORT TYPE	3. DATES COVERED **00-00-2009 to 00-00-2009**

4. TITLE AND SUBTITLE **Army Communicator. Volume 34, Number 2**	5a. CONTRACT NUMBER
	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **U.S. Army Signal Center,Fort Gordon,GA,30905-5301**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**44**	

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18

Worldwide web homepage address
http://www.gordon.army.mil/ocos/AC/
E-mail ACeditor@conus.army.mil

PB 11-09-2
2nd Edition 2009
Vol. 34 No. 2

ARMY COMMUNICATOR

Voice of the Signal Regiment

Table of Contents

Cover by Billy Cheney

Cover: Army Communicator *2nd Volume 2009 is focused on the transformation of the DOIMs to Network Enterprise Centers*

Departments

This is the first edition of the Army Communicator published in six years without our long serving editor, Ms. Jan McElmurray. Jan retired from federal service to pursue a number of activities that have been on hold for too long. In total, Jan worked more than 14 years with the Army Communicator. We here in Signal Towers, and across the entire Regiment, will miss her and her enormous talents. We wish her the best in her future endeavors. Thank you, Jan!

We welcome Mr. Larry Edmond, our new editor, and know that he will continue the excellent production of our magazine.

The communications revolution continues

Fellow Signaleers,

We as communicators continue to revolutionize the way we do business by constantly improving upon our technology and capabilities. In order to remain an effective expeditionary force, we must be able to deliver these network capabilities and services seamlessly as Warfighters transition throughout all operational phases. The Global Network Enterprise Construct is designed to do just this, streamlining several ongoing and separate network enterprise programs into a single strategy to ensure global connectivity under one network manager.

"I am confident the 7th Signal Command team is energized and ready to take on the challenges of this complex mission."
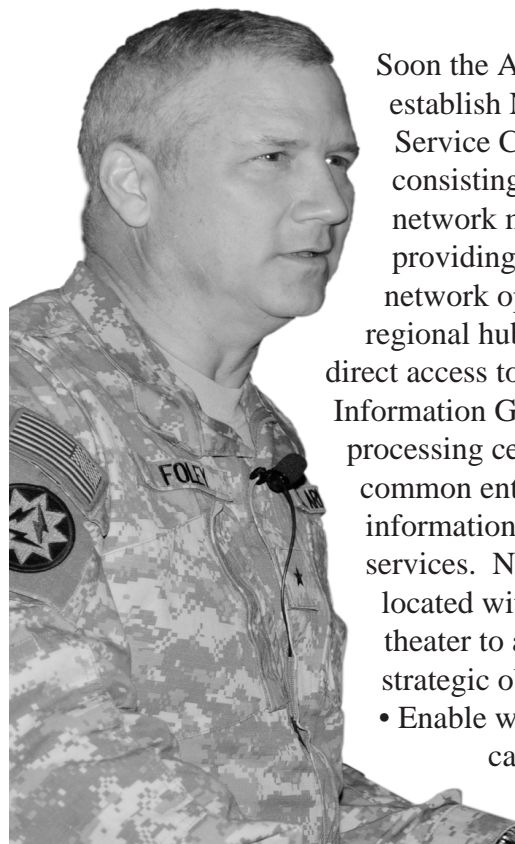
Soon the Army will establish Network Service Centers consisting of a single network manager providing full spectrum network operations, fixed regional hub nodes with direct access to the Global Information Grid, and area processing centers providing common enterprise information technology services. NSCs will be located within each theater to achieve four strategic objectives:
• Enable warfighting capabilities throughout the network

• Improve LandWarNet defense posture
• Realize efficiencies while improving effectiveness
• Ensure Army interoperability across the Department of Defense

This year we took a great step forward in our transforming to an "enterprise" Army.

In the following pages, you will read much more about the activation of the 7th Signal Command and their mission as a CONUS theater signal unit focused on network defense and enabling of expeditionary forces. The contributions of this command, led by Brigadier General Jennifer Napper, to enhance the capabilities of LandWarNet will be significant, supporting 19 commands and agencies with over 447 network connections in the Continental United States.

I am confident that the 7th Signal Command team is energized and ready to take on the challenges of this complex mission. The Chief of Staff of the Army recently said, "Over the next three years, the Army will transform LandWarNet to a centralized, more secure, operationalized, and sustainable network capable of supporting an expeditionary Army in this era of persistent conflict." The GNEC will allow us to do just this by ensuring that the signal regiment is responsive to Warfighter needs in providing premier levels of service. The 7th Signal Command is a major step toward the realization of a single enterprise network manager. Their motto says, "One Network, One Team." This we believe. We wish them the best!

BG Jeff Foley
Army Strong!

Teamwork: Our Army's Foundation for Success

This edition of the Army Communicator is dedicated to our Network Enterprise Centers and as we welcome the 7th Signal Command into the Regiment, it is only fitting that I offer you some thoughts on teamwork and how it is the essence of everything we do.

Henry Ford once said, "Coming together is a beginning; keeping together is progress; working together is success."

No other organization in the world offers the camaraderie that exemplifies this idea more than the United States Army. Each and every day, our Soldiers are out on the front lines, often with nothing but each other. It is when I travel around and see units from region to region working as a team to support the Warfighters that makes me so proud to call myself a Signal Soldier!

One of the tenets that Soldiers going through basic combat and advance individual training are embodied with is the Soldier's Creed. "…*I am a Warrior and a member of a team*…" Teamwork is more than just coming together as a group. Teamwork is the synergy that materializes as the result of unit cohesion through mission accomplishment. The Soldier's Creed goes on - "…*I will never leave a fallen comrade*…" In the profession of Soldiering, teamwork creates a bond that cannot be acquired in any other field of human endeavor. This bond continues to the end, as Soldiers trust each other with their lives.

Nobody ever won a battle or a war all by himself. It demands teamwork. We have an opportunity to exemplify what teamwork is all about.

The Signal Corps is a rock-solid team. Our mission will become increasingly more difficult as we continue to evolve into an expeditionary force, and it will be vital to ensure that we

"The Signal Corps is a rock-solid team. Our mission will become increasingly more difficult as we continue to evolve into an expeditionary force."

are working together to provide and protect services to the Warfighters.

This month I also visited the 11th Signal Brigade and NETCOM headquarters. CSM Donald Manley, NETCOM command sergeant major, and his team conducted a truly "world class" Soldier and NCO of the year board. Special congratulations to SSG Brian Hong, NETCOM NCO of the Year and to SPC Daniel Justice, NETCOM Soldier of the Year. CSM Manley called them the "best of the best." I agree.

My name is Clark and I'm a Soldier!

Thomas J Clark
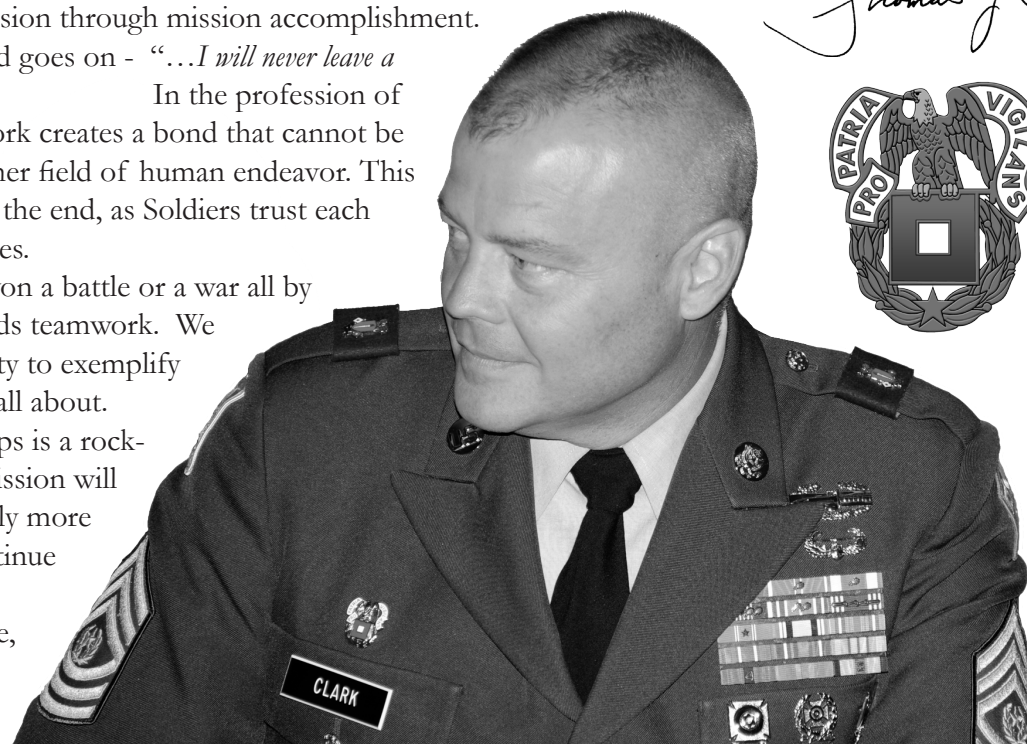
7th Signal Command takes on a new mission

By Patricia Essick

In July 2007 the Army chief of staff approved a concept plan presented by MG Carroll F. Pollett, then serving as commanding general of Network Enterprise Technology Command. This concept approval set the stage for establishment of an Army theater signal command for the Continental United States. To implement the concept, on 22 Sept 2007, the vice chief of staff of the Army signed an execution order directing the activation of the 7th Signal Command (Theater) and two subordinate signal brigades. The decision to establish the 7th Signal Command is a critical step toward improving how the Army provides, operates, and defends the LandWarNet in CONUS, which comprises 80% of the Army's total network enterprise.

The command structure for 7th SC (T) includes the 93rd Signal Brigade in Fort Eustis, Va., and 106st Signal Brigade in Fort Sam Houston, Texas. The 93rd operates Network Enterprise Centers at installations in the Eastern United States, while the 106th operates NECs in the West. The CONUS Theater Network Operations and Security Center at Fort Huachuca, Ariz. is also assigned to the command. On 1 Oct 09, NECs previously assigned to the U.S. Army Installation Management Command, and the South-TNOSC will be assigned to the Command. Over the next two years, the remaining NECs in CONUS and the 21st Signal Brigade will also be assigned to 7th Signal Command.

The 7th SC (T) headquarters is located in Building 21715 on Fort Gordon. Significant construction was required to repair, renovate and upgrade this three-story barracks building into a command headquarters. Some of the major changes required were upgrades to electrical systems, installation of appropriate communications systems, operations center and conference facilities, and construction of a suitable command suite. The work started almost immediately and is nearly complete, and command personnel have moved into their permanent offices. Minor "punch list" items remain, such as exterior landscaping and installation of a small elevator.

The 7th Signal Command has completed the cadre and initial operational capability phases of its activation. The force design for the Command has been submitted to TRADOC, and is awaiting TRADOC approval. A formal activation ceremony was conducted on 6 March 2009. Currently 7th SC (T) is nearing full operational capability, and is already making strides toward improving computer network defense, situational awareness, network operations, and support to expeditionary operations in the CONUS theater. Personnel, both military and civilian, are arriving on a weekly basis to bring the Command toward full capability. As of September 2009, the command stands at about 60% of its authorized strength.

Even before the command was formally activated, its operations center was pressed into action by urgent operational events impacting the security of the CONUS network. The fledgling command quickly implemented network reporting and coordination processes to synchronize actions between U. S. Strategic Command, Army commands, brigade staffs, and installation Network Enterprise Centers across CONUS. To augment the command's lean staff during this early period, the U.S. Army Signal Center supplied "snowbirds" from the Basic Officer Leader Course to work in the command operations center. This was a tremendous learning opportunity for the lieutenants, and helped 7th SC (T) meet mission requirements ahead of FOC.

The 7th Signal Command is building capability over time to establish unity of command needed to provision, operate, and defend the LandWarNet within CONUS. Serving as the single focal point for network operations in CONUS, the Command provides CONUS-based operating and generating forces assured access to global collaborative information environment and LandWarNet capabilities to support all network-dependent battle command requirements through all operational phases. The command's vision is to become the pre-eminent provider of LandWarNet, assuring freedom of maneuver in and through cyberspace. Recognizing the importance of teamwork in executing this difficult mission, the Command's motto is "One Team, One Network!" Accordingly, the 7th has focused on building partnerships with each Army command, Army service component command, direct reporting unit, and installation senior commander in CONUS. All NECs in CONUS will transfer to 7th Signal Command over the next two years, beginning with Installation Management Command NECs. It's therefore important to ensure a smooth transition, accounting for specific requirements of each organization, while sustaining or improving existing service and responsiveness. Over time, the multiple network enclaves that exist today will be brought together under one set of standards and network operating procedures to form a single network enterprise in support of the GNEC.

Mrs. Patricia Essick is an information technology specialist with 7th Signal Command G3 Plans and Engineering section at Ft. Gordon, Ga.

Acronym QuickScan

ARFORGEN – Army force generation
BOLC - Basic Officer Leader Course
C-TNOSC - Continental –Theater Network Operations Security Center
CIE - Collaborative Information Environment
CONUS – Continental United States
CSA – Chief of Staff of the Army
DOIM – Directorate of Information Management
FDU – Force development update
FOC – Fully operational capability
LWN – LandWarNet
NETOPS – Network Operations
NSC – Network Service Center
OPCON – Operational control
RCIO – Regional Chief Information Officer
TRADOC – U.S. Army Training and Doctrine Command
STB - Special Troops Battalion

NEC transformation more than a name change

BG Jennifer Napper

The 7th Signal Command was established to transform the multiple duplicative networks across the CONUS theater into a network enterprise, part of the Global Joint Network. Reflecting this overall transformation, and key to its success, is the transformation of Directorates of Information Management to become Network Enterprise Centers.   The creation of Network Enterprise Centers is more than a name change. It is about a new way of looking at how we provide, operate, and defend networks within the cyberspace domain.

Cyberspace is the interdependent network of information technology infrastructures, including the internet, telecommunications networks, computer systems, and embedded processors and controllers.

Operating successfully in the cyberspace domain requires a shift in how we think about network operations. We can no longer view networking in terms of locally provided services, optimized for a particular location or function. Rather, we must recognize that network operations anywhere impact the Army's success throughout Cyberspace. Standing up

7th Signal Command, the 93rd and 106th Signal Brigades, and NECs at each installation makes possible an Enterprise-wide approach for operation and defense of the enterprise network in CONUS. The command, in concert with NECs across the theater, provides unity of effort required to successfully operate and defend the network.

Success in the cyberspace domain is achieved when Army forces have assured access to the global collaborative information environment, giving leaders the information assets they need to execute command and control. There are 19 separate ASCC, ACOM, and DRU organizations operating in and through the Land-WarNet within CONUS. Most of these organizations operate in direct support of deployed forces, continually conducting operations in and through Cyberspace.

In addition, CONUS-based deploying units depend on the network to train as they fight, to conduct distributed joint planning, and to rehearse for operations. NECs at each installation operate as part of

BG Jennifer Napper
Commanding General
7th Signal Command
(Theater)

the larger Global Network Enterprise while remaining responsive at the local level to provide assured access.

As the command moves towards full operational capability, we have emphasized the importance of building relationships -- among our own team and with those who rely on the network capabilities we provide. The people who serve in our NECs understand operations at the local level. They are collaborative partners with Warfighters and operators. We are taking care to preserve these relationships and to focus on improving our responsiveness to the requirements of commanders and Warfighters. We provide, operate, and defend the network on their behalf.

Taking care of people key to command success

By CSM Kenneth Williams

The best part about serving as the 7th Signal command sergeant major has been meeting the tremendous people who accomplish our mission every day.

I have travelled with BG Napper extensively, visiting the 93rd and 106th Signal brigades and their Network Enterprise Centers at installations across the United States.

During these visits I've been most impressed with the professionalism of the military and civilian personnel who operate and defend the installation networks in CONUS every single day.
Their willingness to work together to meet mission requirements, and their drive to continually improve the

operation is truly inspirational. It's a great team.

We're continuing to build the 7th Signal team, in several ways - through quality of life initiatives, by emphasizing fairness and respect for others, by looking after the professional development needs of our workforce, and by developing consistent management and operational processes.

Each of these areas is an essential part of building a strong, cohesive team that will be able to excel long after I've moved on to my next assignment. We're moving forward in each of these areas by developing the physical working environments that are clean and safe, the command climate that is based on mutual trust and respect so everyone knows their

contributions are valued, a professional development system that trains, evaluates, and mentors our personnel so they're prepared to succeed, and a consistent set of processes to provide reliable guidelines for everything we do. The bottom line purpose for doing all these things can be summed up simply as 'taking care of our people.'

It is by taking care of people that we will succeed as a command. Our performance is measured by the capabilities and customer service we provide. Maximizing the performance and job satisfaction of each one of our people will lead directly to mission success.

CSM Kenneth Williams is 7th Signal Command (Theater) command sergeant major.

7th Signal Command (Theater) Reactivated

By Charmain Z. Brackett

At first glance, the mission of the newly reactivated 7th Signal Command (Theater) seems a far cry from the original one back in 1975. "The 7th worked closely with the Department of Defense managing the Army's portals," said MG Susan Lawrence, commanding general for Network Enterprise Technology Command, at the reactivation ceremony March 6 in front of Signal Towers.

Three decades ago, it was a computer-less Army, and there were phone banks to man and help desks to run as America was engulfed in the Cold War.

Despite the changing times and technology, the 7th Signal Command is once again needed to manage another portal.

The 7th Signal Command (Theater) will oversee the networks in the continental United States, a much-needed task, according to BG Jennifer Napper, commanding general of 7th Signal Command.

Napper said she sees obvious examples of why the Army needs a CONUS Signal Command whenever she visits Army installations. Making an outgoing call should be simple.

"It takes a half an hour to figure out the prefix. There are 99 different ways of dialing off-post," she said. The 7th Signal Command can establish consistent standards that will improve network performance.

Napper and her staff have spent the past six months laying the groundwork for the command.

During the ceremony, the newly designed flag and patch were unveiled, and the flags for 106th Signal Brigade and the 93rd Signal Brigade.

Lawrence may have felt a sense of déjà vu during the March 6 ceremony. She remarked it was the third time she had passed colors to Napper.

Mrs. Brackett is a contributing writer for The Signal Newspaper at Fort Gordon, Ga.

(Left to right) **MG Susan Lawrence, commanding general for Network Enterprise Technology Command, BG Jennifer Napper, commanding general, 7th Signal Command (Theater), CSM Donald Manley, NETCOM command sergeant major and CSM Kenneth Williams, 7th Signal command sergeant major, render honors during the ceremony activating the 7th Signal Command (T) March 6, 2009 at Fort Gordon.**

Command and Control Structure

9th Signal Cmd (Army) ++

7th Signal Cmd (Theater) +

HHC — C-TNOSC || — 106th X — 93rd X — S-TNOSC || — 21st X
(ADCON 1 Oct 09)

NECs — NECs

302nd || — 56th ||

55th COMCAM || — 114th ||
(ADCON TBD)
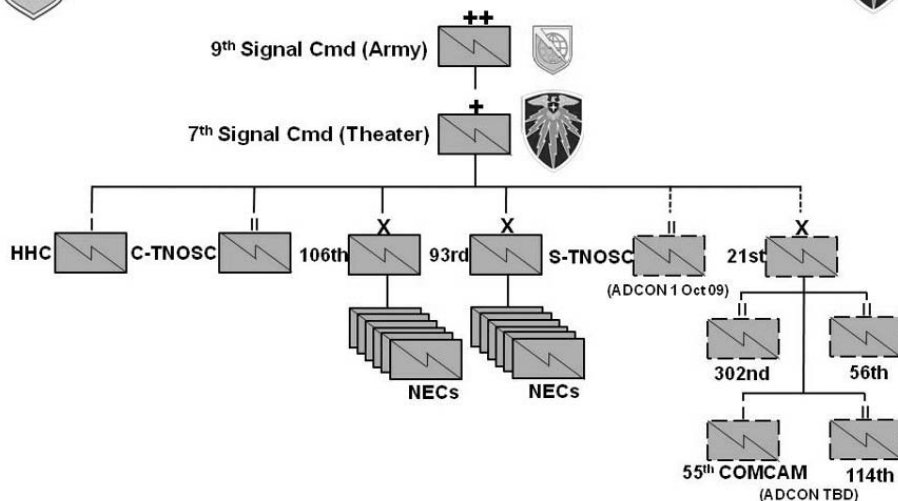
7th Signal Command Provides Support to 3 ACOMs, 6 ASCCs, and 15 DRUs

FORSCOM	(ASCC)MEDCOM
TRADOC	USACE
AMC	MDW
ARNORTH	9th SC(A)
ARSOUTH	ATEC
ARSTRAT	USARC
SDDC	ARNG
USASOC	AAFES
INSCOM	IMCOM
USAAC	USMA
CIDC	USAASC(ASA(ALT))
MEPCOM	

A Tale of Two Signal Commands
Central and Pacific

By MAJ Jan Norris

The value of the theater signal command in the Army force structure is often questioned by new Signaleers. 'This is an excess layer,' is a comment often repeated among communicators at the corps level and below.

Today, the signal command has become more competent and more relevant for its subordinate and supported forces. This is especially evident in Central and Pacific Commands where the signal command's multi-component/USAR flagged unit composition has historically cast doubts on the organizational viability of the 335th Signal Command (Theater) (Provisional) and the 311th Signal Command (Theater).

Evolving doctrine, ASCC transformation and operational requirements of the past two decades have transformed both commands from CONUS-based Reserve centered organizations to forward deployed operationally focused theater enablers. While not without need for continual growth and improvement, they are making a difference in support of overseas contingency operations.

Doctrinal Framework

Since its inception in the mid-80s, the role of the signal command has expanded to meet the rapidly advancing technology of Army networks and reliance on those networks to enable battle command in multiple theaters.

A quick review of the current doctrinal structure and mission sets of the signal command is important in understanding its current operating posture.

The core mission of the signal command (theater) is to "deploy and execute Network Operations for the theater LandWarNet and provide information services support to theater Army forces during full spectrum operations." This includes the mission "to plan, engineer, integrate, manage, and defend the Army's portion of the Global Information Grid, and to direct execution of generating force and operating force information networks, systems and services to support Army, joint and multi-national forces and inter-governmental, inter-agency and civil authorities, during full spectrum operations."

The critical general and core capabilities mission essential tasks of an SC(T) include:
• Conducting Command and Control
• Implementing enterprise architectures and policies
• Conducting Network Management and Enterprise Systems Management and providing Information Assurance and Computer Network Defense (Conduct NETOPS via the TNOSC/RCERT).

Figure 1-1 SC(T) Subordinate Elements, FMI 6-02.45, 05 JUL 07

The SC(T) is tailored to command and control multiple theater signal brigades (tactical and/or strategic) and joint and coalition Signal support elements. The TNOSC, Tactical Installation Network and combat camera companies typically remain OPCON to theater sign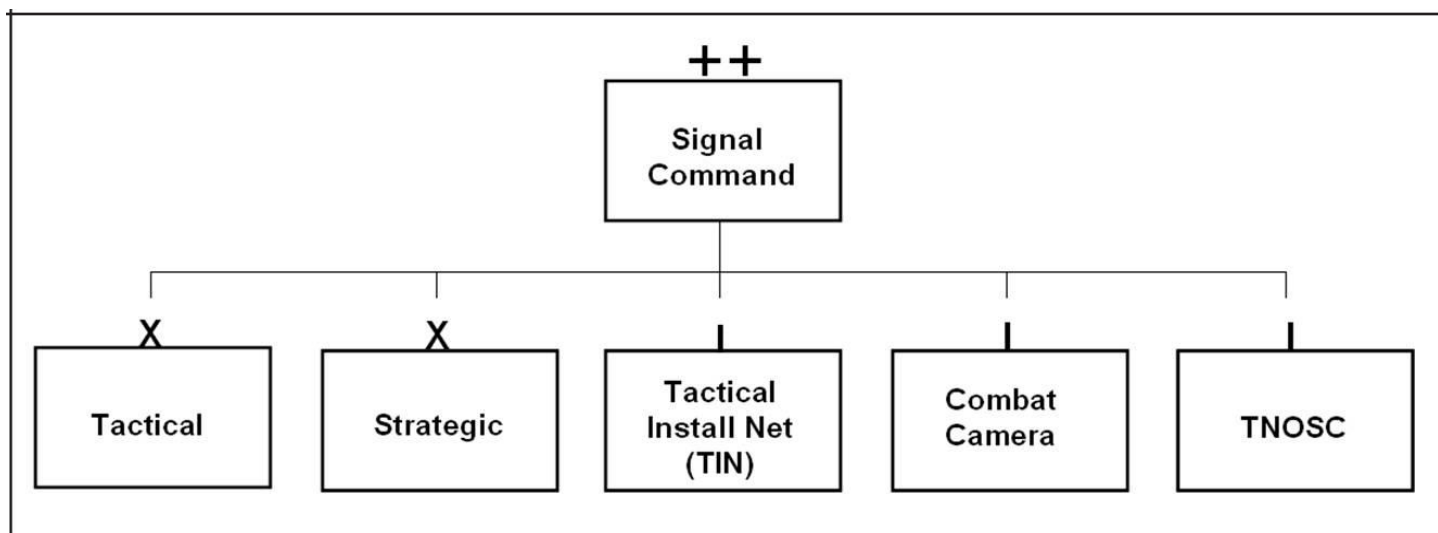al command to provide theater level services and support (see figure 1-1 above), although the task organization may vary based on METT-TC.

While doctrine provides the foundation for operations, each signal command has shaped its operational framework to meet unique requirements within forward areas of operation.

Army Central Forward - 335th Signal Command (Theater) (Provisional)

In the CENTCOM/USARCENT AOR, the 335th SC(T) has maintained an enduring forward presence since 1992. Following the 9/11 attacks and through commencement of the ground war in early 2003, 335th maintained over 120 soldiers forward to stand up and operate the Theater TNOSC at Camp Doha in Kuwait City, Kuwait.

While a two star billet, the 335th Commander Forward has remained a brigadier general in recent years and serves as the ARCENT G6. To meet the enduring strategic communications requirements in theater for the long war, the 160th Signal Brigade was activated in late 2003 to serve as the theater strategic signal brigade with two operational base signals battalions organically assigned in theater and one rotational battalion, all OPCON to the 335th.

The TNOSC and 335th forward operations were relocated to Camp Arifjan in December 2006 where they currently reside and maintain a multi-component personnel strength of 70-72 Soldiers to include forward communications-integration teams in Iraq and Afghanistan.

Like the USARCENT headquarters, 335th has a CONUS main body element located in Atlanta, Georgia. The split-operations construct presents many challenges. As a USAR flagged organization, the mission of the 335th Main has grown in recent years to provide command and control of all CONUS-based Army Reserve Signal units, a chemical brigade and two regional support groups.

Balancing priority of effort between its CONUS C2 mission and support to 335th Forward operations has been an arduous task. Resourcing USAR personnel to fill out the annually rotating 335th forward detachment is currently the primary support role and function for the 335th Main. And having tapped its internal personnel repeatedly over the past seven years for deployments, the annual search for fills now extends across the entire USAR force. Active component personnel that support the 335th Forward are typically assigned for a 12 month tour while Reserve personnel rotate in TCS status about every 10 months. This multi-component staff structure mixes AC and RC personnel with varying levels of military and civilian experience and technical skills.

It often requires added time and effort to integrate and build trust among internal unit teams and across subordinate and higher echelon Signal units and staffs. Many Reservists bring valuable civilian engineering and information technology skills to the fight.

Key leaders and Soldiers in the 335thForward have served well in recent years in overcoming these challenges to make significant contributions to the war effort, especially in managing the commercialization of communications infrastructure in theater.

Commercialization Efforts

The focus for 335th Forward, now designated as the 335th SC(T) (Provisional), for the past several years has been engineering and installation project management to meet commercial communications expansion requirements in Kuwait, Iraq and Afghanistan.

These projects range from engineering and installing technical control facilities and satellite terminals on strategic operating bases to planning the installation of commercial fiber optics between posts, camps and stations.

In the past year, commercialization efforts in Kuwait, Iraq and Afghanistan were substantial. 335th coordinated the complete installation of the final fiber link of the Kuwait backbone at Camp Virginia, which provides secure, reliable fiber capacity between all camps and stations in Kuwait, from Camp Arifjan to Camp Buehring.

335th SIGNAL COMMAND (THEATER) (PROV)

July 2009
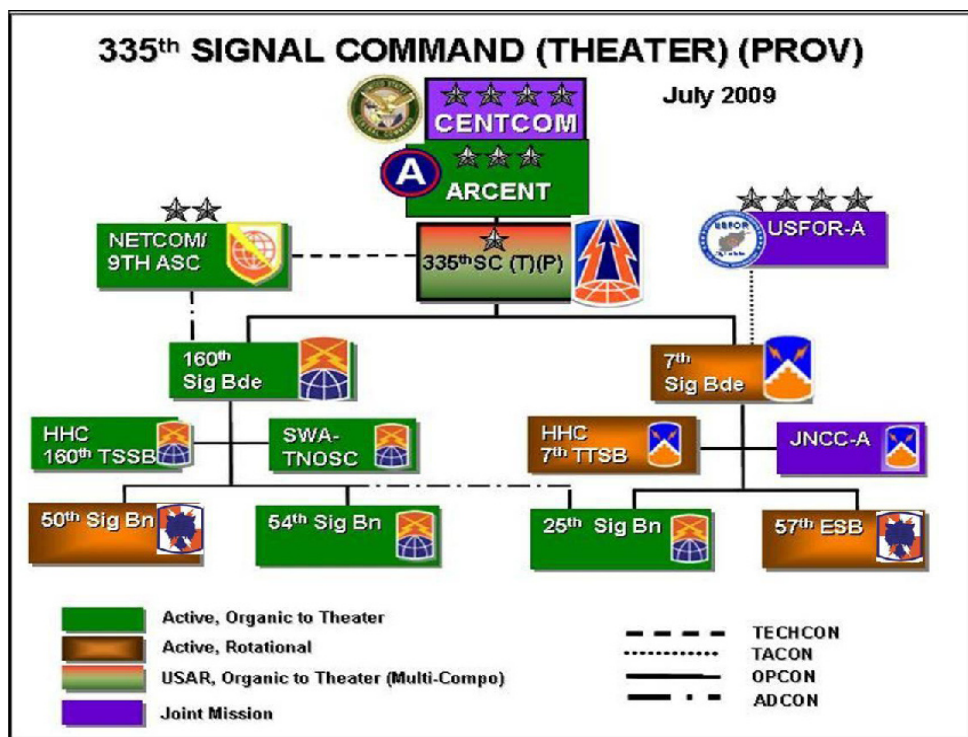
The 335th Forward team in Iraq successfully installed an SL100 switch, and then further engineered and installed routers and strategic switching technology for expansion of the SL100's capabilities to Camps Victory and Speicher. Team Afghanistan spearheaded many projects, but most notable were the completion of the Bagram Airfield fiber ring and the New Kabul Compound. As forces surge in Afghanistan through the summer of 2009, 335th continues to oversee modular TCF installations throughout the AOR and manage completion of multiple strategic fiber links.

Future Operational Expansion

Given the projects' centric posture, the 335thForward increased its operational scope in spring 2009 by assuming OPCON responsibilities for the 7th Signal Brigade in Afghanistan with USFOR-A having TACON of the brigade. Not since Desert Storm has the 335th been tasked with control of two Signal brigades. This change serves as a milestone and significant step forward in validating the Signal Command's Theater mission. It has forced directed energy and effort in ramping up the Command's operations division to perform specified OPCON roles and act as the single theater inject point for both 160th and 7th Signal Brigade for ARCENT and NETCOM.

Time and again through its forward presence in the SWA AOR, the 335thForward has evolved to confirm the relevance of the Signal Command's mission and its continued responsibility as primary strategic communications enabler in the CENTCOM AOR.

Army Pacific - 311th Signal Command (Theater)

Established as a USAR flagged theater signal command in 1996 with headquarters at Fort Meade, Md., the 311th SC(T) was formed in the shadow of the 261st Signal Brigade. The 261st, a National Guard unit based in Delaware and currently serving in Iraq, has traditional linkage to support of the Pacific Theater of operations and maintained a forward cell at Fort Shafter, Hawaii for several years in the early 1990s prior to formation of the 311th.   When formed, many Signal soldiers from the Delaware National Guard transferred to the Army Reserve to help stand up the 311th main headquarters at Fort Meade. In the late 90s and through 2006, the 311th maintained two forward operating detachments in Hawaii and Korea. While the Hawaii detachment remained consistent at three to five AGR personnel augmenting the USARPAC G6 staff, the Korea detachment grew into a large multi-component (AC/AGR) staff of well over 40 soldiers performing 8th Army G6 roles and functions with an AGR O-6 serving as the deputy G6 and OIC of the detachment. The 311th Main continued to serve as the home of the commanding general throughout this period and the reserve soldiers based in Maryland typically augmented the forward detachments in support of the PACOM Theater Security Cooperation Plan and associated Joint and Coalition exercises year round in the forward AOR. Much like the 335th forward with its multi-component structure, the mix of AC, AGR and RC personnel in the 311th in the formative years created scenarios where building trust and confidence with AC subordinate and higher echelon units and staffs and proving relevance of the organization was a constant challenge. Steadfast leadership and persistence proved successful again in keeping the SC(T) afloat and engaged.

In 2006, ASCC transformation initiatives re-aligned OPCON of the 311th SC(T) from USARC to the U.S. Army Pacific and relocated the flag from Ft. Meade to Fort Shafter, Hawaii. As a Theater Enabling Command of USARPAC, the 311th SC(T) manning structure and scope of responsibilities changed significantly. While remaining a multi-component organization, the number of full-time AC personnel increased to 79 (notably with an AC Chief of Staff and G3), AGR remained constant at 38 and civilian end strength continues to grow as authorizations are filled. The 311th assumed OPCON of the 516th Signal Brigade and took over many of the Theater level architecture and engineering functions from the brigade to include Regional Chief Information Officer functions. The 311th SC(T) commander immediately took on the dual role of 311th commander and USARPAC G6. In addition to the traditional TSCP exercise support role, JTF-Homeland Defense is now a part of the mission set for the command.

Since arrival in the Pacific, organizational capabilities of the 311th continue to expand as more civilians are hired and the military leadership and staff mature in developing firm command and control and supporting relationships with subordinate units (516th Signal Brigade), supported units and higher headquarters elements (USARPAC/NETCOM). With sufficient manning, the 311th is now moving towards full operational capability in meeting its general and core mission essential tasks for the sustaining the strategic-based (Phase Zero) LandWarnet and extending the network when and where needed for contingency operations.

Some of the recent Command initiatives for the 311th include a phased LandWarNet integration plan where the Pacific Theater architecture evolves from its current Hawaii-centric posture to an Army Pacific Centric network with Korea, and ultimately to a Joint Theater Centric architecture that gains efficiency, survivability and saves costs and fees for service.

In support of the war fighter, the 311th plans to increase theater HF data (e-mail) capability and will receive initial fielding of its compliment of JNN/CPN terminals in late Summer 2009 in the 307th ITSB.

Unlike the 335th SC(T) (Prov), 311th has its entire signal command full-time military and civilian staff co-located in one location with exception of a CONUS-based Reserve support detachment that typically serves to support recurring Pacific JTF-HD and TSCP missions.

Like the 335thSC(T) (Prov), the 311th progressed from a CONUS-based unit with elements forward to an operational forward-based headquarters proving its relevance daily as a 'battle command' enabler.

Future Outlook

With constant Army transformation, the future of the signal command (theater) is no more guaranteed than any other unit or formation. Future threats and conflicts will forever shape Army force structure as we've seen with the recent transition from a division to a brigade centered Army and the on-going re-design of the Army service component command headquarters.

What appears predictable is consistently escalating reliance on information technology to fight and win wars.

No other branch of service has an organization equivalent to the Army's SC(T). Nor do they have the mission to operate and defend such an expansive global land-based network as we currently have to support current and potential land-based Army and joint force operations.

Economic trends that drive defense cuts and competition for resources across the DoD will continue impacting questions of whether the SC(T) is really needed and performing its theater mission as designed. A recent SC(T) commander offered the most germane response to the recurring questions about the SC(T) when he said, "you know, many people have asked me, do you really need a signal command? Well, the answer is 'No, you don't'. But, if you don't, then you have to take the nearest Signal unit or brigade in [a mature] Theater, make their commander a general officer, then call it a signal command (theater)."

For now, the Central and Pacific region, multi-component SC(T)s continue to improve operational capabilities, increase in relevancy and contribute to the successful execution of Army missions abroad.

MAJ Norris is assigned as Operations Officer for the 311th Signal Command (Theater), Fort Shafter, HI since January 2008. He recently completed a six month short tour in July 2009 with the 335th Signal Command (Provisional) at Camp Arifjan, Kuwait. Previous assignments include Commander, High Tech Regional Training Site, Sacramento, Calif., and I Corps G3 Information Management Officer, Fort Lewis, Washington. Norris is a 1990 graduate of Virginia University with a bachelor's degree in journalism and 1997 graduate of Old Dominion University with a Master's degree in applied linguistics. MAJ Norris is a 2007 graduate of the resident Command and Staff College, Fort Leavenworth, Kan.

ACRONYM QuickScan

AC – Active Component
AOR – Area of Responsibility
ASCC – Army Service Component Command
CCMET - Core Capabilities Mission Essential Tasks
COMMS-I - communications-integration
DoD – Department of Defense
GIG – Global Information Grid
GMET - General Mission Essential Tasks
HF – High frequency
IA/CND - Information Assurance and Computer Network Defense
METT-TC - Misssion Enemy Terrain Troops Time Civilian
NETOPS – Network Operations
NME/SM - Network Management and Enterprise Systems Management
OIC - Officer in charge
OPCON – Operational Control
RC - Reserve Component
RCIO - Regional Chief Information Officer
SC(T) – Signal Command (Theater)
TEC - Theater Enabling Command
TCF - Technical Control Facility
TCS - Temporary change of Station
TIN - Tactical Installation Network
TNOSC/RCERT – Theater Network Operations and Security Center/ Regional Computer Emergency Response Team
TSCP - Theater Security Cooperation Plan
USARPAC/NETCOM - U.S. Army Reserve Pacific Network Enterprise Technology Command

311th Signal Command (Theater)
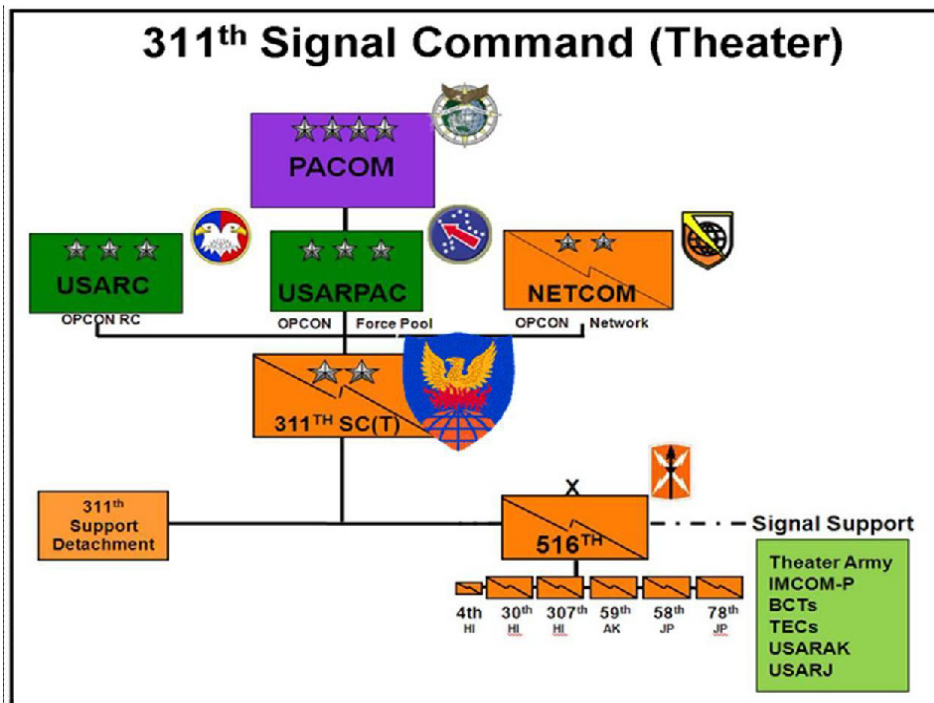
78th Signal first unit to pass new inspection

By MAJ Brent Skinner

The 78th Signal Battalion became the first U.S. Army unit to pass the Department of the Army Inspector General's Information Assurance Inspection.

The DAIG IA inspection, a rigorous and detailed four day inspection was conducted by the DAIG IA office from 20-23 January 2009. The 78th Signal Battalion passed a benchmark setting level of 115 of 117 inspectable areas. Battalion leaders say it was a true team effort coming after months of preparation that enabled the battalion to achieve its exceptional accomplishment that sets a very high mark for other battalions to follow.

Information Assurance is a Pacific LandWarNet priority for securing information networks.

COL Robert Deyeso, U.S. Army Japan deputy commander said "I am not surprised by the 78th Signal Battalion's work. It was a collaborative team effort. Securing our network and maintaining information assurance compliance is a very high priority in USAR-J."

Both COL Deyeso and the U.S.Army Garrison-Japan commander, COL Robert Waltemeyer, were in attendance during the out-brief to hear the exciting news about passing the grueling inspection.

LCOL Cleophus Thomas Jr., 78th Signal Battalion commander said, "I challenged our unit to do well and they did an outstanding job. We achieved success as one team, just like the USARJ motto – Ichi Dan! I am very proud of this unit. CSM Adams and I are honored to be a part of it."

The command issued congratulations to all of the Soldiers, Department of the Army civilians, contractors, and local national employees of the 78th Sig. Bn. for being a part of history--the very first Department of the Army organization, including Active Duty, Reserve and National Guard units, to pass this DAIG IA inspection. The command also offered special thanks to all of the privileged users and information management officers across USAR-J and USAG-J who assisted with the daily hard work that made it possible to achieve success. The command added a final kudo to the network and computer users, whose diligence and daily support of information assurance and network security contributed to the accomplishment.

MAJ Brent Skinner is the 78th Signal Battalion S3.

ACRONYM QuickScan

DAIG - Department of the Army Inspector General
IA - Information Assurance
USAR - U.S. Army Japan
USAG-J - U.S. States Army Garrison-Japan

78th Signal Battalion

25th Infantry Division's Network Acceleration

By MAJ Gregory Griffin and SGT Ryan K. Young

The 25th Infantry Division implemented an innovative network acceleration solution that is producing excellent results for Warfighter operations.

Riverbed acceleration reduced the traffic destined for the Division's low bandwidth, high latency satellite Wide Area Network links by approximately 30%. This reduction improved the user experience with faster file transfers, VOIP voice traffic with fewer breaks, Adobe Connect sessions with less dropouts and breaks, and web pages loading faster.

To gain an accurate understanding of how the 25ID achieved this service delivery improvement plateau it is essential to consider the operating environment, the Riverbed technology and the implementation strategy involved.

MND-N's initial network conditions

The division used a backbone of satellite based links instead of terrestrial short haul line of sight links to provide communications in the 25ID's AOR.

The Multi-National Division–North covers a portion of northern Iraq roughly the same size as the state of Georgia. Much of the terrain is an open, uninhabited expanse with little infrastructure between population centers. There is one mountain range that bisects the region and interferes with LOS communications when the range permits its use. Given the status of the infrastructure, no host nation support could be relied on for tactical communications.

The other MNDs cover significantly smaller and better developed AORs allowing them to use a series of LOS links having up to ten times more bandwidth and less than 2% of the latency of a standard FDMA satellite link. This caused the 25ID to experience uncharacteristically high latency and low bandwidth on its primary links between its users and the source of services. Given the nature of battle command and its reliance on high bandwidth, low latency, jitter intolerant applications, the division had to find a way to improve the performance of the network. The Division looked to a solution that had already proven itself in large scale corporate settings and small scale military ones as well.

MND-N went with a division-wide network acceleration solution provided by Riverbed. It consists of a combination of network devices and client-based software. Riverbed takes advantage of the widely distributed Transmission Control Protocol used for Internet traffic to establish its network of accelerators. These accelerators employ three different techniques to accelerate the traffic. The acceleration that the Riverbed solution provides dramatically reduces the amount of data that traverses the WAN links with little to no management overhead.

TCP Review

Understanding how TCP initiates and controls communication is critical to understanding how the Riverbed technology works. TCP initiates communication, or session, between two computers through a series of three messages known as a three-way handshake. The source sends a message to the destination to synchronize their communication, a SYN message. The destination receives this message and replies with an acknowledgement of the SYN from the source, a SYN ACK message. Once the source receives the SYN ACK from the destination it knows that the destination has received the SYN and is ready to establish a session with the source. The final part of the handshake is the source's SYN ACK back to the destination signaling that it knows the destination is ready. If any of the messages that are part of the handshake fails to reach its destination then the entire handshake fails and the process must start over from the beginning.

The Riverbed technology takes advantage of this structure as a low overhead way to have the Steelhead devices confirm their locations and status on the network. Steelhead devices on the network exist in a 'pass through' state, not accelerating traffic. Each time a source sends a TCP SYN message, the Riverbed device (known as a Steelhead) at the source sets a flag in the options portion of the message header. This flag alerts the destination that there is a Riverbed at the source and that it would like to accelerate traffic. If the destination does not have a Steelhead, the SYN ACK will return to the source as a normal TCP message without a flag and the source will continue to pass through traffic un-accelerated. If the destination has a Steelhead, it will read the flag in the SYN and send back a flag in the SYN ACK signaling that there is a Riverbed at the destination. When the source Steelhead detects the flag in the SYN ACK message, it begins to accelerate the rest of the traffic for that TCP session.

As indicated in the graphic on the next page, TCP controls flow of data between a source and destination by using what is called a sliding window. The source and destination negotiate the rate at which data passes between them using this window. The window is the number of packets that can be sent by the destination before

has to wait for an ACK from the destination. TCP primarily uses round trip time between the source and destination, the number of failed deliveries (ACKs received out of order or not received at all), and capabilities of the source and destination network interface cards to establish the window size. If the connection between source and destination is reliable (few message drops) and the RTT is small, then the window size will grow, minimizing the idle time of the NIC and increasing data transfer. But if the connection drops a lot of messages or the RTT is large, then the window size will shrink, increasing the idle time of the NIC and slowing data transfer. By understanding how TCP window sizes work and change size, Riverbed targets one of its acceleration methods to maximize the TCP window size and increase the rate of data exchange between the source and destination.

Riverbed acceleration

Riverbed uses three different but complementary methods for accelerating traffic. These methods all rely on Riverbed's ability to store information. Riverbed calls its methods 'reductions' to accurately portray how their product works. They do not make an electron go faster but they make each electron represent more data. These reductions, data, transport, and application, all combine to get more data to the destination faster.

Data reduction stores information at both the source and destination Steelheads in order to prevent data from travelling the WAN multiple times.

When a source Steelhead receives traffic it compares the series of bits with data it has already received and stored in its hard drive. If the Steelhead does not have a copy of this series of bits then it will give it a small (in size relative to the bit pattern) but unique label, copy the data with the label and store it on the hard drive while sending the original with its new label to the destination.

If the Steelhead already has the series of bits in storage, it will retrieve the label, discard the series of bits and send only the label.
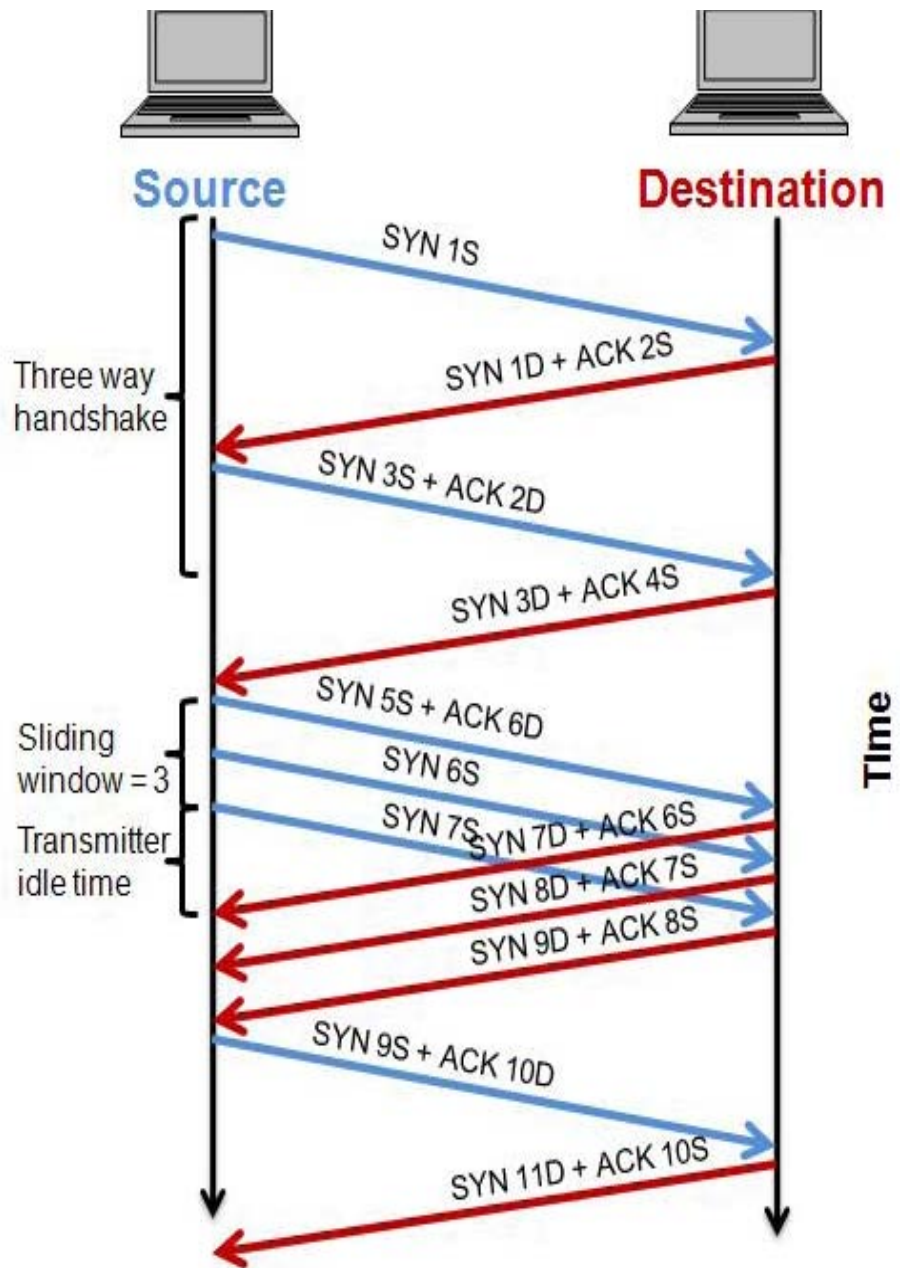
TCP Data Flow

At the destination, the Steelhead that receives a message with data and a label will copy the message to its storage, strip the label off the original message and send it to the destination.

If the destination Steelhead only receives a label, it will copy the data in its storage under that label, discard the label and forward the data. Given that this operates on the bit level, it is completely independent of the application or file it is from.

This increases the likelihood of

a match significantly, improving the overall efficiency of the system.

The transport reduction method specifically works to optimize the TCP window size during sessions. Without a Steelhead in the path, a TCP session is established between the source and destination no matter how long the RTT.

When Steelheads are present, that one TCP session with the long RTT can be segmented into three TCP sessions with significantly smaller RTTs.

The first TCP session is between the source and source Steelhead. This connection is on the LAN at LAN speeds. Given the reliability of LAN connections and the extremely small RTTs, the TCP windows are very larger and cycle quickly, minimizing the idle time of the NIC and transferring data out of the source faster.

This releases the source's resources faster, allowing the user to move onto other tasks. The source and destination Steelheads form the second TCP session between them. This session has a slightly smaller RTT than the original source to destination RTT. The TCP windows cycle similarly to the original source and destination session and there is not much gained. The last TCP session is between the destination Steelhead and the destination. This session is similar to the session between the source and source Steelhead, minimizing the NIC idle time by cycling the TCP window faster in the LAN's high speed, low error environment.

Finally, Riverbed uses some known properties of specific client server applications to execute its application reduction method. Many enterprise services use chatty applications.

These applications require many messages between client and server to maintain a connection even if nothing is currently being transferred.

The Steelheads have the ability to emulate the server or the client, depending on the application, for the connections to be kept active without sending the traffic over the WAN. When a message with information or data in it hits the Steelhead it sends it over the WAN to the distant end.

By using the structure of TCP and combining all three of these methods, Riverbed has created an effective acceleration technology. It is embedded in the widely used and proven protocol which it uses to minimize the administrative load on the network.

Then Riverbed uses a data storage function to reduce the amount of data (data reduction) and messages (application reduction) flowing over the WAN while it optimizes the sliding windows. Together this works to reduce traffic on MND-N's low bandwidth, high latency links.

Acceleration applied to a military network

A few concerns had to be addressed when initially examining accelerating the MND-N network in order to develop an effective action plan. First, what data needs acceleration and on which links-- NIPR, SIPR, LAN, WAN, LOS, SATCOM?

This answer drives where in the architecture of each node that the Steelhead devices go. And finally, which devices are the most appropriate for the level of traffic that MND-N has at each of its nodes?

Once those three questions were answered, the procurement and installation of the devices in the MND-N network could begin.

Support Protocols	Application/Function Supported
CIFS	File sharing
MAPI	Exchange
HTTP	SharePoint
HTTPS	SharePoint
NFS	File Sharing
MS-SQL	Data Base Support

Table #1 Supported Protocols

What do you accelerate?

Military networks have multiple components. Most units in the U. S. Army operate on at least two computer networks. The Army uses the Non-secure Internet Protocol Router Network for unclassified computing and general internet access.

In garrison, the Army conducts the majority of its work on the NIPRnet. For classified computing, the Army uses the Secure Internet Protocol Router Network and when a unit is deployed, most of its work is done at this classification level. In the JNTC architecture, classified SIPRNet traffic is encrypted and then tunneled into the NIPRNet traffic.

The encryption hides the contents of the SIPRNet data through a process that randomizes the bit patterns, counteracting the data reduction acceleration method in the Riverbed solution.

Despite the NIPRNet traffic containing all of the SIPR traffic, most of it is encrypted, inhibiting acceleration. The optimal employment is on the SIPRNet just prior to encryption.

Given the speed at which the LAN operates (100-1000 Mbps) compared to the WAN (1-20 Mbps), the acceleration will have the most benefit on WAN links. This is something the network engineers had to remember when considering placement and especially since some of the WAN links are fiber to the local FOB LAN.

Also, given the latency and size of satellite communications links (>550 ms and 1-3 Mbps) when compared to LOS links (10-20 ms and 4-20 Mbps) the investment was only made to accelerate the high latency, low bandwidth SATCOM links. The Riverbed devices can be inserted into a network multiple ways. All of these options have the common goal of being placed as close to the LAN/WAN boundary in order to capture as much of the WAN bound traffic as possible. The division used two different architectures to ensure they capture the most traffic.

In the instances where the LAN flows to a central exit point to the WAN and the exit consists of two devices in serial, an 'in-path' architecture works well. It is simple and Riverbed designed the Steel heads to be installed this way by default.
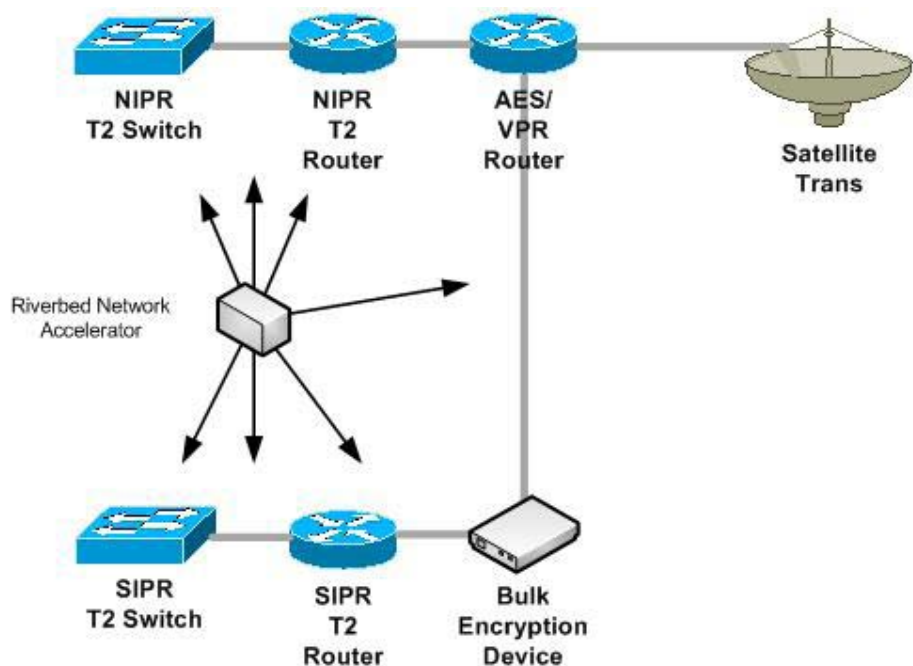
Illustration #2 Satellite Architecture

MND-N's Division Main Headquarters LAN has this architecture and the Steelhead is employed in such a manner.

When one or more of those conditions aren't true, then an 'on LAN' or 'virtually in-path' architecture is more appropriate. This configuration works well when installed even though it takes a little more planning. Some of the BCTs have this architecture and their Steelheads are employed in such a manner.

Given the diverse nature of MND-N's network and the options available through Riverbed, the Division employed a solution that uses both network devices and client software to ensure acceleration covers the most users possible.

The table below shows the different Steelhead models available at the time the Division assessed the requirements of MND-N. Given the traffic patterns in the network, we placed 2050s at DMAIN and the Unit Hub Node, 1050s in BCT Joint Network Nodes, and 250s at smaller command posts serviced by Command Post Nodes or Traffic Terminals. MND-N has over 40

CPN or TT-sized nodes with users who could benefit from the Riverbed acceleration.

Placing Steelhead 250 devices at all of them would have been prohibitively expensive. For these users, the network engineers installed Steelhead Mobile Client software on their computer. It gives them the performance of acceleration but without the cost, installation and maintenance of a separate device.

The network devices and client software together accelerate the network where it is needed most.

This network of devices accelerates traffic over the division's primary satellite links from BCT and TAC CPs to DMAIN and the UHN. The users connect to DMAIN's services (Exchange, SharePoint, Adobe Connect, etc.) and the UHN's path to resources outside of Iraq (AKO-S, Intellink, etc.). The software clients, even though they are not behind a Steelhead, experience similar acceleration to those same services.

The users who benefit from acceleration will still have satellite-induced latency for real time application (VoIP phone calls and Adobe connect sessions) but they will have conversations and presentations with less jitter and fewer breaks and drop outs.

For non-real time applications, the users gain faster file transfers and web pages that load faster.

To manage this architecture, Riverbed has two management servers that centrally control all of the devices and client software licenses.

Characteristic	Steelhead Model			Steelhead Mobile Controller
	250	1050	2050	8500
WAN Capacity	1 Mbps	6 Mbps	20 Mbps	Platform Dependent
Optimized TCP Connections	125	1300	4000	Platform Dependent
Optimized Users	25	260	800	1
Raw Capacity	120 GB	250 GB	1 TB	10 GB
Storage Capacity	40 GB	100 GB	400 GB	3 GB
RAM	1 GB	2 GB	6 GB	Platform Dependent
Quantity in MND-N	3	10	2	300

Table #2 Steelhead Model

Reports > Steelhead > Bandwidth Optimization ?

Bandwidth Optimization (GB)	2009/03/15 12:23:21 -- 2009/03/22 14:29:21 +0000

Period: Last Week	**Group:** Global	**Application:** All
Traffic: Bi-Directional	**Refresh:** Off	Go

▨	WAN Data	69.5 GB
▨	LAN Data	236.6 GB
	Total Data Reduction %	70%
	Peak Data Reduction Occurred At 11:29:21 on 2009/03/16	94%
	Optimized Bandwidth Capacity Increase	3.40X

Illustration #3 Bandwidth Optimization

For the SMC clients, an SMC license server was required to manage the licenses and track performance of this portion of the acceleration solution. For the Steelhead accelerators, a Central Management Console allows central configuration and performance data collection. The accompanying charts show the graphs MND-N most commonly uses to monitor its network. The first chart above is the bandwidth optimization graph with performance data charted beneath it. It shows how much traffic, in MB or GB, that was destined for the WAN and then what actually crosses it.

The chart at right shows the traffic broken down by port (application) and ordered by the quantity passed through the device. This rendition shows how much data reduction the Riverbed was able to achieve by application. Both of these reports allow the administrator to focus resources on the links and applications that show the most impact.

Performance

Getting a comprehensive appreciation of the performance gains made by incorporating a Riverbed Network Acceleration solution on the MND-N network was problematic. Initially we looked at the traffic summary chart produced by the devices themselves as the savings on any one link but

quickly found that to not be the case. The device gives you accurate information on the traffic that is routed to it by protocol. However, it does not count management traffic and cannot account for traffic

that does not flow through it. For virtual in-line implementations we routed Adobe connect traffic around the Steelhead because it did not accelerate it and we suspected that it interfered with the application's performance. Without these numbers, the 'total optimized traffic' values are significantly inflated. Suspecting this and wanting to know the actual impact on our network we used our monitoring tools to look at the directly connected interfaces of the neighboring devices to the Steelhead. From these devices we found the average data rate taken at hourly intervals over a seven week period and used them to find the differences in rates between the two neighboring devices. We assumed that any difference between the rates would be a direct result of the Steelhead. Using this information we found that instead of an approximately 50% reduction in bandwidth needed, it was actually 28% for one device and 6% for another.

Reports > Steelhead > Traffic Summary ?

Period: Last Week	**Group:** Global	**Type:** Optimized
Refresh: Off	Go	

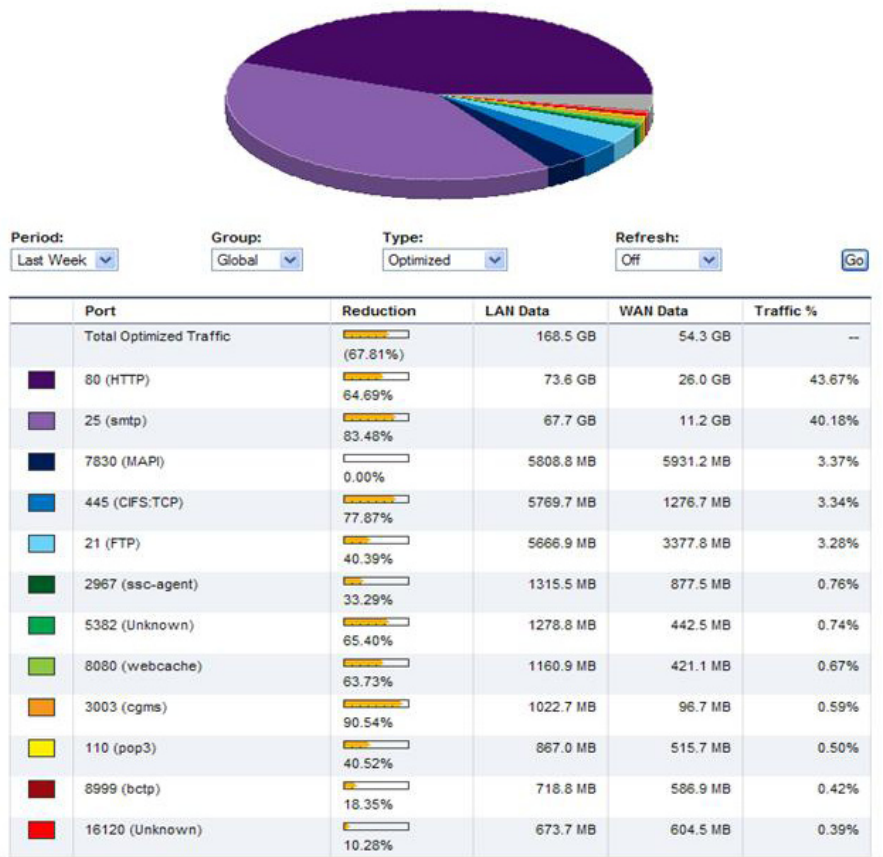|	Port	Reduction	LAN Data	WAN Data	Traffic %
	Total Optimized Traffic	(67.81%)	168.5 GB	54.3 GB	--
▨	80 (HTTP)	64.69%	73.6 GB	26.0 GB	43.67%
▨	25 (smtp)	83.48%	67.7 GB	11.2 GB	40.18%
▨	7830 (MAPI)	0.00%	5808.8 MB	5931.2 MB	3.37%
▨	445 (CIFS:TCP)	77.87%	5769.7 MB	1276.7 MB	3.34%
▨	21 (FTP)	40.39%	5666.9 MB	3377.8 MB	3.28%
▨	2967 (ssc-agent)	33.29%	1315.5 MB	877.5 MB	0.76%
▨	5382 (Unknown)	65.40%	1278.8 MB	442.5 MB	0.74%
▨	8080 (webcache)	63.73%	1160.9 MB	421.1 MB	0.67%
▨	3003 (cgms)	90.54%	1022.7 MB	96.7 MB	0.59%
▨	110 (pop3)	40.52%	867.0 MB	515.7 MB	0.50%
▨	8999 (bctp)	18.35%	718.8 MB	586.9 MB	0.42%
▨	16120 (Unknown)	10.28%	673.7 MB	604.5 MB	0.39%

Illustration #4 Traffic Summary

This is a good result, just not as good as we believed by looking at the Steelhead statistics.

Overall assessment

The Riverbed network acceleration solution employed in MND-N by 25ID has been successful. The acceleration harvested bandwidth from the low bandwidth backbone used to provide command and control to the division. On average, the division's system of Riverbed Steelheads consistently reduced the amount of bandwidth used on the WAN by about 30%. The acceleration works extremely well on web traffic (port 80, about 33% of the total traffic), file transfer protocols (ports 21 and 445), and exchange and mail traffic (port 25, about 10% of the total traffic).

However, our most important traffic, Adobe Connect (port 1935, about 2% of the total traffic) and voice traffic (UDP RTP, about 4.5% of the total traffic) are not accelerated at all. Given that the majority of the division's traffic is web and e-mail, the acceleration reduces the majority of the traffic, allowing more bandwidth for the traffic from time sensitive applications used to enhance situational awareness and command and control for the division.

Despite the overall success 25ID has achieved, there were plenty of challenges. A comprehensive acceleration solution for a deployed military network is not 'plug and play'. If the Division had been willing to re-engineer most of the LANs into a configuration suitable for 'in-path' deployments, the installation could have been closer to plug and play. However, the work and resources required to do that was prohibitive especially since the 'virtually in-path' solution was an option. Configuring the 'virtually in-path' solution requires detailed knowledge of networking and the ability to experiment without interrupting service to the user. This experimentation allowed time to ensure we had the Steelhead and directly connected devices configured properly and even then we experienced some trouble with the Adobe Connect sessions. Eventually we had to pass through all the Adobe Connect traffic so the device does not attempt to accelerate it.

The Riverbed employment has been worth the time and effort. On our most constrained links it significantly increases our total data through put. MND-N went from a network that on a routine basis completely congested its WAN links during peak hours coinciding with the division briefing times on a network where WAN congestion was not the primary cause of network performance issues. The Riverbed Company is supportive and in continuously close contact with us. The company is currently working on the Adobe Connect issue.

MAJ Greg Griffin was commissioned in 1994 and holds a Bachelor of Science from the U. S. Military Academy and a Master of Science degree in systems and information engineering from the University of Virginia. He started his career as an Armor officer and then transitioned to a telecommunications systems engineer. He is assigned as a division network engineer for the 25th Infantry Division, Schofield Barracks and currently deployed with the division to MND-N at COB Speicher.

SGT Ryan K. Young entered the active Army in 2006 as a 25B, information systems specialist, after spending eight years in the Oregon Army National Guard. He is currently a Cisco certified network associate and working towards a Bachelor degree in science and information technology. He is assigned to the 25th Infantry Division as a network engineering technician and deployed to Iraq with the division in MND-N at COB Speicher.

Acronym QuickScan

AOR – Area of responsibility
BCT – Brigade combat team
CMC - Central Management Console
CMC - Central Management Console
CPN - Command Post Nodes
DMAIN - Division Main Headquarters
FDMA - Frequency Division Multiple Access
FOB - Forward Operations Base
JNN - Joint Network Nodes
JNTC - Joint Network Transport
LAN – Local Area Network
LOS - line of sight
MND-N - Multi-National Division-North
NIC - Network interface cards
NIPR - Non-secure Internet Protocol Router
NIPRNet – Non-secure Internet Protocol Router Network
RTT - Round trip time
SATCOM – Satellite communications
SIPR - Secure Internet Protocol Router
SIPRNet – Secure Internet Protocol Router Network
SMC - Steelhead Mobile Client
SYN – Synchronization message
SYN ACK - Synchronization Acknowledgment Message
TCP - Transmission Control Protocol
TT - Traffic Terminals
UHN - Unit Hub Node
VOIP – Voice Over Internet Protocol
WAN - Wide Area Network

Adaptability is critical to NETOPS in battle

By Ronald Cohen

There is no proving ground like a war front to test both men and machines in rapidly changing environments.

A 15-month tour in Iraq will not only test one's abilities to cope with the heat and sand but will challenge a Signal Soldier's ability to adapt to a rapidly changing strategic network that is evolving as fast as new technology hits the market. This evolving network brings new horizons for a unit's NetOps and thrusts the Signal company management into a daily grinding crucible.

During my tour in support of OIF 07-09, I learned how the NetOps and company were imbedded into BCT/BDE S6 operations across the theater. The integration of JNTC equipment and the Signal company varied from unit to unit. This article offers my observations and an assessment of a viable method for attaining outstanding Signal company management.

One of the first trends I noticed among the multiple BCT S6s I encountered across the theater in person and through e-mail was how the NetOps was aligned versus MTOE. The overall trend was that the NetOps and the 251 from the CSSAMO were attached to the BDE S6 to support the brigade. This alignment was either dictated by the division over the unit at the home station or by the BCT commander. This management philosophy gave the BDE S6 clearer lines in control of personnel and the expectations of those personnel.

The other trend was that the NetOps and 251N were not attached to the BDE S6. The lack of direct control of the NetOps and 251N by the BDE S6 reverberated in the timeliness and responsiveness of the Signal Company and the CSSAMO. These challenges included the management of communication assets as the NetOps, Signal company, and CSSAMO sections took orders from various bosses. However, there were benefits to the NetOps still belonging to the company as long as the BDE S6 and Signal company commander had a good working relationship.

One of the most significant benefits of the NetOps belonging to the company was the ability to tap into the pool of Soldiers residing in the company. This is one of the benefits of having a Signal battalion. My NetOps belonged to the company. Yet, the relationship with a new company command with a better understanding of the mission fostered a combined effort. The commander managed his personnel and ensured the NetOps was fully manned to support its arduous mission. The flow of personnel caused some challenges in training but also ensured that there was someone there throughout the week, continuously around the clock with the capability to get the subject matter experts if required.

The downside of the NetOps belonging to the company, which I also experienced early in the tour, was the lack of support from the commander to provide staff to the NetOps with the true personnel requirements. The MTOE does not clearly identify the true manning requirements of a NetOps. The manning requirements must consist of at least three personnel on eight hour shifts because with guard duty, regular and emergency leave, schools, and other requirements, personnel can become scarce very quickly. I saw some NetOps manned by as few as three Soldiers while others were more robust. Additionally, long term planning for a Signal Soldier should include NetOps training that will ensure the Soldier is prepared for future duty positions and operations.

During my tour, I worked with two Signal company commanders and I experienced both sides of manning a NetOps. Additionally, I actually prefer the NetOps falling under the Signal company as long as the Signal company commander and the battalion command supports the mission of the BDE S6.

One method to assure the Signal company truly is focused on the BCT/BDE mission is to align the Signal company as a BCT/BDE separate. Under this structure, the BDE S6 is the rater and the BDE commander is the senior rater. This alignment mitigates external elements from tasking the company. This allows the Signal company to focus all its energy supporting the brigade as a whole rather than meeting task directives as staff officers in none doctrinal positions, drivers, and other non-MOS related tasks.

The lingering dilemma and discussion within the Signal Corps is where the NetOps should rest – BDE S6 or company. Arguments will be made that NetOps should be part of the HHC BCT/BDE MTOE while other arguments are that there should be no change to the MTOE. During my tour in support of OIF 07-09, I made up my mind how the Signal Company could truly support the BCT/BDE mission and ensure network management requirements were met – company separate.

ACRONYM QuickScan

BCT - Brigade Combat Team
BDE - Brigade
CSSAMO - Combat Service Support Automation Management Officer
JNTC - Joint Network Transport
MOS - Military Occupational Specialty
MTOE - Modified Table of Organization and Equipment
NetOps - Network Operations
OIF - Operation Iraqi Freedom

Tips for working successfully with your local Network Enterprise Center

By LTC John J. Pugliese

Here is some need to know information and a practical guide for the tactical signal officer whose success is very dependent upon a positive working relationship with the local NEC.

An effective working relationship is a critical element toward helping ensure the six can meet all command communications requirements. There are many challenges in doing this.

As the network becomes more centralized, the ability of the tactical signal officer to have direct control of the network is rapidly changing. As we adapt the network to provide more robust capability to the commander, we also must adapt our current way of doing business to ensure the best possible support.

The one constant for the commander is his reliance on the signal officer for all issues associated with the organization's ability to communicate. This includes all aspects of both direct and indirectly controlled networks. As the commander of the network the division signal officer must bring all aspects of the network into alignment to ensure the commander can communicate.

As I have learned as a division signal officer, not having direct control of all communications assets does not limit our ability to get things done or have them done in a timely manner. What you have to do is evaluate your environment and work the best solutions based on that individual environment.

Of great focus is your relationship with the local NEC. The division signal officer is the face of the commander for all matters relating to communications. It is your job to ensure a smooth flow between the commander's requirements for communications and the successful execution by both those assets you control and those you do not.

First Army Division West

The mission of First Army Division West is to execute pre-mobilization training, readiness oversight, and post-mobilization operations in its geographic area of responsibility in accordance with the Army Force Generation model in order to provide trained and ready reserve component forces to the regional combatant commanders for the full spectrum of operations.

First Army Division West is unique in its task organization in that all seven of our subordinate brigades are located in seven different states on seven different installations. In addition, the division headquarters is also not co-located with any of its brigades. Each brigade must work with the local NEC in determining the specific communications requirements.

At the division level we are engaged with eight NECs at eight different locations. Our success is directly related to our ability to work with the local NECs. The brigades have a mix of both CONUS accounts and USAREC accounts. In addition, all secure services are provided by the local NEC of the installations on which the units are stationed. The local NECs also provide cell phone support, COMSEC support, POTS phone support, storage space and web support. We are extremely dependent upon our Installations for communications support in the success of completing our mission.

Mission

The mission of the NEC is to meet the information management requirements of the users on their installations. This is a very broad definition but helps us to frame what they do and how to best interact with the NEC organization.

Who is the NEC?

Many times we hear, "the NEC said no" or "the NEC said we have to do it this way." Who in the NEC are we referring to when we say this?

In forming our relationship it is critical we do not lump the entire organization into one unworkable nonexistent person. It is much better to identify the individual section that you are working with and then identify the individual with whom you are working. This will ensure the issue is not given to a nameless organization which creates a situation that is infinitely more difficult to solve.

For example, which situation do you think would be easier to solve? The NEC said we cannot use live SIPR for the exercise or Mr. Jones from the Information Assurance section said our physical security is not within the allowable standards.

In the second example the problem is outlined so the six can work to resolve the issue directly with Mr. Jones or his immediate supervisor. It also takes away the faceless organization that appears to be saying no to your requirement and allows you to formulate a plan to engage the issue.

Understand the Task Organization and who does what. Take the time to understand who does what in the organization and get to know the department leaders. It is more effective to work with someone you know instead of someone you have never met or only talked to on the phone.

Face to face communications is the most effective and if you are on the same installation this becomes a must do.

Constraints

Like all organizations the NEC has its share of

constraints. It is critical to understand these constraints so you can best work your strategy to ensure you can meet your requirements.

The first constraint is a general lack of funding for your unit initiatives. The NEC is not funded to support all the communications requirements you may want and need. Therefore it is important to understand that you will most likely need to provide funding for some of your requirements. Once your chain of command understands this, the requirement can be put into your budget to ensure funds are available when required.

Ensure you talk to your local director to see what the NEC is or is not funded to do. Based on this information you can form a strategy and forecast funding as required.

Staff level authorization could also be a constraint for your local installation. As budgets become tighter across the military, this may become more of an issue. Staff level constraints can limit the NECs' ability to provide you with the service you need in a timely manner. If this is an issue that affects you, consider the possibility of providing some of your own staff to cover the gap or provide funding to enable the installation to hire the appropriate personnel to cover your requirements.

Understanding and Articulating your Requirements

It is critical you understand your requirements. While this may seem very simple, in reality it is not. Most of us will provide the solutions to meet the requirements without taking into consideration what some of the other possible solutions are; and without really examining what the requirements are.

An example of not understanding your requirement would be requesting handheld radios for observer controllers involved in a tactical exercise. The request is for an exact model of radio and network extension of the radios for 100 miles off post. When you dig into the requirement it is for the observers controllers of the exercise to be able to talk to each other on unsecure voice to share observations on how the unit is performing. In this case we can easily fill the requirement with current unsecure cell phone support with no extension of the network required.

Always focus on the actual requirement first i.e. what you are trying to accomplish. What is the end state of the task you are working? Always begin with the end state up front vice the other way around. Then look at the possible solutions. Too many times we quickly and inappropriately jump to a solution which may not be supportable and is cost prohibitive.

Are we speaking the same language?

While this may seem very simple to answer, the issue is rooted in the fact that the installation and the sixes apparently speak a different language when it comes to requirments and how we view the world.

An example of this is when we asked one of our local NECs to extend SIPR for a training exercise. The initial answer was not very positive with a long lead

time and large list of things that must be completed. We needed a tactical SIPR solution that would only be active during the exercise.

The installation was looking at the requirement from a totally different perspective. They saw it as a permanent extension, which put a lot more restrictions on the requirement. Once we explained this there was no issue in obtaining the extension of the network for the exercise.

You cannot help but think of the old school trick where you tell one student "the sky is gray" and by the time it makes it from one end of the class to another, the phrase is totally different and becomes something like "my car is red."

As you are working with the NEC on your requirement remember that the initial requirement may be distorted as it passes from one person to another. Seek clarity on how they define both your requirement and what it means to them. Keep the requirement as simple and concise as possible. Be flexible to re-engage when you do not get the answer you need or expected and be open to other possible solutions.

Priority of Effort

What is the best way to establish the priority of effort with your local NEC on your issues and projects? In our current environment one missed critical e-mail or corrupt word file can have a negative impact on your entire unit. The NEC is responsible for the entire installation and everyone will agree that that their issue is the most important. In such an environment how do we ensure that our top priorities are given the correct attention?

One approach that is working well in Division West is to have a direct help line set up between the six and the NEC director or his representative. In many respects this is very similar to the battle drills we use for critical situations. This eliminates you having to navigate the routine system that works well for day-to-day procedures but not for those true emergencies. This allows you to identify what is critical and requires immediate support.

This system allows a much faster response time for your key personnel. It is important to note that you don't want to pull the trigger unless you really do have an issue or you run the risk of everything you are doing as being an issue or priority. The key to this is a good dialogue between the signal officer and the chain of command to lay out those critical nodes or personnel. Within Division West we have three battle drills and have established those individuals that have a high priority. Setting up this system in advance will also keep you from having to re-invent the procedure every time you have an issue.

7th Signal Command

The recent stand up of the 7th Signal command at Fort Gordon, Ga. is a tremendous asset to the division signal officer and the ability to interact with the local installation. The two brigades of the 93rd Signal Command at Fort Eustis, Va., and the 106th at Fort Sam Houston, Texas will help bridge the current gap we have

7TH SIGNAL

MISSION: Provide CONUS-based operating and generating forces assured access to the global Collaborative Information Environment (CIE) through LandWarNet capabilities to support all network-dependent battle command requirements through all operational phases. Establish unity of command to provision, operate and defend the LandWarNet in CONUS through integrated network operations.
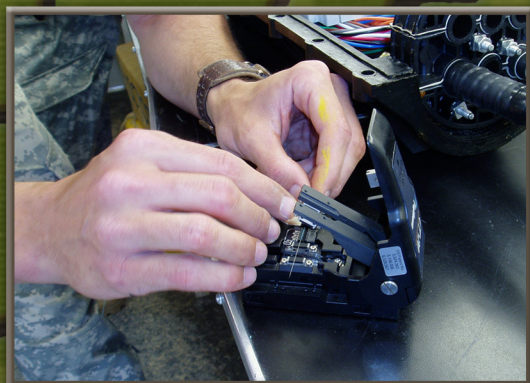
106TH
SIGNAL BRIGADE
FORT SAM HOUSTON, TEXAS

AL COMMAND (T)

FORT GORDON, GEORGIA

VISION: ONE TEAM, ONE NETWORK!
7th Signal Command (Theater) is the
preeminent provider of LandWarNet, assuring
FREEDOM of MANEUVER
in and through cyberspace.

93RD
SIGNAL BRIGADE

FORT EUSTIS, VIRGINIA

between the organizational structure of the installations and the war fighters. The NECs will move from their current command structure and will be under the operational control of the new command. The new structure is a benefit to both the tenant units and the NECs.

Final Thoughts

It is important to ensure you take the time to recognize the hard work your installation partners are doing to support you. Given our busy schedules and the operational tempo this is sometimes easy to overlook. A kind word and recognition for a job well done will go a long way in fostering a positive relationship. Our relationship with the installation is critical to our success as communicators. As the network continues to adapt to future challenges we must also adapt our tactics, techniques and procedures to ensure we continue to meet the requirements of the war fighter.

The G6 of First Army Division West, LTC John J. Pugliese has a wide range of tactical and strategic Signal Corps experience including lengthy assignments in the 25th Infantry Division, 82nd Airborne Division and the ranger regiment where as the regimental S6 he participated in the initial combat operations in Afghanistan. His other combat experience includes duty in Iraq as a signal brigade S3 in 2003 and later as the C6 operations chief of Multinational Corps-Iraq.

NEC leaders course fosters understanding

By Mark Crenshaw, Willie C. Williams Sr., Heather McEnery

Network Enterprise Center management leaders are participating in a unique U.S. Army Signal Center course.

Since May 16, 2008 in an effort to develop and expand training opportunities for NEC leaders, 147 directors, deputy directors, and division chiefs have attended training designed specifically for NEC leaders. During the course students interact with representatives from the Army Chief Information Office/G6, Signal Center, 7th Signal Command, Network Enterprise Technology Command, and service-oriented leaders from military and non-military organizations. Brig. Gen. Jeffrey Foley, U.S. Army Signal Center and Fort Gordon commanding general, provides students with his vision for the Signal Regiment, as well as, valuable pointers on executive leadership and support to commanders.

The training program continually receives positive reviews from both the NEC and military communities. An excerpt from a student critique reads, "This was a great course and definitely worth the time. The depth of information was impressive. As a newly assigned deputy NEC I now have a very in-depth and rounded view of NEC operations. The information was presented both at the big picture and operational levels. I will recommend to others."

Hal Chaikin serving as the Technical Services Division chief at Fort Riley, Kan. said, "The briefings from the higher headquarters DA G6, FORSCOM, IMCOM, Netcom, 7th Sig, etc) provided 'big picture' contexts to some of the day-to-day battles we deal with at our installations."

Robert Brown deputy NEC, Red Stone Arsenal, Ala. said, "The interaction with the tactical IT unit was excellent - additional dialog with the Soldiers is very valuable in assisting the NEC's understanding of their requirements."

Jesus RosaVelez, NEC G6 /USABCTCoE, Fort Jackson, S.C. said, "One of the best things was the interaction between NECs and non-NECs developing as the bench stock which resulted in outstanding knowledge sharing and gained insight into IT operations and unique mission requirements on other installations which I am sure we all took a piece of to our home stations for possible use."

Elias Hall, NEC at Fort A.P. Hill, Va. said, "I thoroughly enjoyed the course and found it to be most valuable. Would like to send all three of our division chiefs if and when their schedules will allow. Fort Gordon is a class act. You should be the next ACOE winner. I shared my trip report with the FAPH staff. Top quality leadership presentation. Excellent, excellent, excellent!"

Another participant wrote in a review, "The [Fort Gordon] NEC provided a great tour of their outstanding facility. NEC personnel presented themselves professionally demonstrating a good understanding of their areas of expertise and positive attitudes. The Fort Gordon NEC is the epitome of doing more with less. "

The most recent NEC Leader Class was held July 19-30 with eight iterations scheduled per year. Prospective students may enroll through the Army Training Requirements and Resources System using the course number 7E-F35/531-F10, Network Enterprise Center director, or call Heather McEnery, NEC facilitator at commercial phone (706) 791-1702 or DSN 780-1702 to request a FG Form 6690 to complete and return.

Focusing on training, educating, and developing adaptive information technology professionals, the Leader College

Fort Stewart bridging the gap

By LTC Maria Biank

Hovering in the shadows of the new, state-of-the-art 3rd Infantry Division headquarters, the Fort Stewart Directorate of Information Management is housed in a 1970's style building.

It is a short walk between the office of the NEC director and the G6's office. The path between them is well worn. When asked to prepare a story for the Army Communicator on why our NEC and G6 relationship is so strong, one of the NEC's branch chiefs stated, "The question should be, why don't all NEC's work well with G6 shops?" For the NEC, it's a matter of "attitude and respect".

The Army calls the war fighter customers. The NEC calls them IT partners and friends.

Our relationship has been forged through many years of change. Prior to 1990, the names and faces of the NEC employees and the 24th Infantry Division Soldiers changed in a rhythmic cycle. Then in 1990, the

---

for Information Technology provides one-third of the Signal Center of Excellence mission as articulated in the 500-Day Campaign Plan. In conjunction with the Army Chief Information Office/G6 and the National Defense University the LCIT has developed a Network Enterprise Center Leader Training Program to ensure NEC leaders are prepared for the complex, dynamic, and challenging mission of supporting Soldiers around the globe.

The three-tiered training approach addresses the knowledge gap between the NEC community and the operational forces they support and improves their ability to provide customer service, interpret requirements, develop plans, and deliver services. In addition to the two-week NEC Leader Course at Fort Gordon, select directors are invited to the Signal Pre-Command Course where they attend with battalion and brigade commanders, division and corps level signal officers, and program managers. This year, 32 NEC leaders have attended the PCC.

Mr. Mark Crenshaw is the contracting officer representative for the 442nd Signal Battalion. Mr. Willie Williams and Ms. Heather McEnery are facilitator/training developers for RLM-Communications.

ACRONYM QuickScan

ATTRRS - Army Training Requirements and Resources System
LCIT - Leader College for Information Technology
PCC – Pre-Command Coursentinental United States
COMSEC – Communications Security
SIPR – Secure Internet Protocol Router

NEC employees stayed home with Army Families while their IT partners prepared for war. Since Operations Desert Shield and Desert Storm, the Fort Stewart NEC has played a significant role in the service and support of Soldiers using information technology.

With the re-flagging of 24th Infantry Division to 3rd Infantry Division, every major operation conducted at Fort Stewart and Hunter Army Airfield has had direct G6 and NEC collaboration as we assist each other in command, control, communications and computer operations.

As each year passes, more and more IT is embedded with the war fighter. This increasing presence of information technology requires a strong bond between the NEC and G6 in managing those technologies both at home and abroad. In the last few years the NEC has played a large enabling role in training, maintenance and rear-detachment support, while the division faced repeated deployments overseas. As we look to the future, the NEC is in the middle of a major shift as they transition from IMCOM to the 7th Signal Command. Even with a somewhat uncertain future, our relationship will not change because partnership and cooperation go hand in hand with mission and responsibility.

The mission of the NEC and G6 is to provide "world class" technical and troubleshooting support to our expeditionary customers. We do this in a number of ways:

** Apply consistent processes and efficient troubleshooting procedures to achieve timely, responsive incident resolution and ensure customer satisfaction.

** Handle diverse applications and technologies such as desktop applications, Virtual Private Network, Blackberry support, and the training and troubleshooting of complex computer software and hardware problems.

** Conduct detailed coordination to fully understand IT requirements for 3rd ID deployments and re-deployments; ensure appropriate triage for all IT systems based on operational impact and prioritized requirements.

** Share the responsibility of managing, configuring, and keying 3rd ID TACLANEs.

** Manage classified and unclassified Video Telecommunications bridges; and establish a Memorandum of Agreement for connectivity between the NEC and 3rd ID SIPRNET LANs.

** Conduct a weekly, collaborative meeting to discuss new technologies, challenges, issues, resolutions and future key events to maintain situational awareness.

** Provide SharePoint as our primary Knowledge Management tool to share information throughout the IMO community across 3rd ID.

** Maintain parity in expertise and maximum efficiency of all training resources by sharing valuable slots for New Equipment Training and certification training.

** Coordinate and understand all roles/responsibilities and reporting procedures for IT incidents and classified spillages.

Why it works

Partnering

When rotations occur, the new G6 accompanies the departing G6 to the NEC to meet the NEC staff. This initial meeting with the NEC director sets the stage for the next few years of "partnering." Our partnering rule is simple: G6 priorities will always be NEC's priorities. We clearly understand that each organization supports the senior commander at Fort Stewart and HAAF. All policies, procedures and processes are vetted through G6 and the NEC before implementation. We believe that if we do not have the buy-in of our partner, we cannot succeed.

Leadership

It all boils down to leadership. Joyce Neesmith, NEC director, is a leader and manager. She lets the technical specialists do their jobs and translates how it impacts the warffighter in easy to understand terms. LTC Maria Biank, 3rd ID G6, runs a horizontal organization where her staff is empowered to make decisions at the action officer level. This enables a fast and efficient decision process.

Open Communications

The NEC director insists that open communications at all staff levels is the best method of interaction between our staffs. This means that the G6 or any member of the G6 staff can contact any member of the NEC staff at anytime. LTC Biank sees the NEC as the most important external relationship for the G6 staff, and as such, having an adversarial relationship with the NEC is inconceivable. Our staffs draft joint recommendations and brief us. When challenges arise, we get together and work out a viable solution.

Examples of how it works

Recently, we began the "right seat" training for SMS and firewalls. G6 Soldiers worked alongside NEC employees, training and enhancing the entire team's IT skills and abilities. We coordinated NIPR and SIPR connectivity for the Army's War fighter Information Network – Tactical Limited User Test for Increments 1b and 2, during which the 3rd Infantry Division tested the next generation of communications equipment. The NEC and G6 conduct a weekly, joint meeting with the G6 and brigade S6 staffs to discuss all IT issues in an open roundtable forum. This meeting augments the monthly IMO meetings that are conducted with division and installation IMOs. In April 2009, the division G6 hosted the Quarterly Signal Leaders Conference. The NEC staff members have a standing invitation to present topics where they brief the Warfighter regarding on-going initiatives and garner support for initiatives that affect the network.

Challenges

Before you think we are viewing the situation through rose-colored glasses, we do have our challenges. VTC operations are a huge challenge, especially with the proliferation of SIPR communications to battalion and the potential for battalion commanders to conduct SIPR VTC from their desks. The NEC is required only to maintain one VTC on the installation, while the division is in a state-of-the-art building with two VTC rooms and six roll-about VTC suites. We facilitate 18-20 VTCs per month, which will increase dramatically with the October 2009 OIF deployment. At 42% personnel strength, the NEC cannot feasibly support any additional VTC operation requirements until the approved NEC staffing model is fully resourced.

Conclusion

The activation of 7th Signal Command is an exciting milestone on our NEC/G6 journey. For Fort Stewart and HAAF, the NEC and G6 are dedicated to making this a seamless transition with zero negative impact to the war fighter. We will continue to partner as we have in the past – based on mutual respect of our shared IT technical expertise.

The NEC's attitude is that these Soldiers are our brothers and sisters. They are being sent into harm's way. Therefore they deserve the best that we can give them. The support that the NEC provides Soldiers directly affects their fighting ability and many times means life or death. Supporting the Warfighters and their Families shows our total dedication and respect to the mission and its success.

We are proud to be in this together.

LTC Maria Biank currently serves as the G6, 3rd Infantry Division, Fort Stewart, Ga. In her previous assignment, she served as the Executive Assistant to the director, Defense Information Systems Agency and Commander, Joint Task Force - Global Network Operations in Arlington, Va.

ACRONYM QuickScan

HAAF - Hunter Army Airfield
IA – Information Assurance
ID – Infantry Division
IMO – Information Management Officer
KM - Knowledge Management
LAN – Local Area Network
MOA – Memorandum of Agreement
NET – New Equipment Training
NIPR – Non-secure Internet Protocol Router
OIF – Operation Iraqi Freedom
SIPRNET - Secure Internet Protocol Router Network
SMS – System Management Server
TACLANE – Tactical Local Area Network Encryption
VTC – Video Telecommunications
WIN-T - Warfighter Information Network – Tactical

Evolutionary theater support

By LTC Linda Jantzen

The first expeditionary Signal battalion to deploy in support of a theater-wide mission is setting a record of accomplishments that should be the model for future mission planning and doctrinal updates.

The 40th Expeditionary Signal Battalion was one of the first three signal battalions to undergo signal transformation to the new expeditionary signal battalion configuration in 2007.

Army modularity resulted in the inactivation of signal battalions and brigades at the division and corps level, and it embedded network support companies in corps and division headquarters, brigade combat teams, and selected multifunctional brigades. For units or ad hoc headquarters which do not have organic signal capability, the expeditionary signal battalion was created to pool tactical signal capability in order to provide that capability when needed.

For the Signal Corps, the expeditionary signal battalion presents continuing opportunities for leading and training signal Soldiers and for integrating the Army's most modern tactical communications equipment including Phoenix satellite terminals, Joint Network Node, Command Post Node and the upgraded Single Shelter Switch(v)3.

Signal Transformation and ESBs in OIF

Signal Corps transformation was critical to enabling Army modularity. When it comes to tactical communications, transformation also eliminated the distinction between Echelons Corps and Below and Echelons Above Corps. Before Signal transformation, ECB signal battalion equipment, skill sets, training and doctrine was significantly different from EAC signal units. The JNTC equipment in the ESB now replicates the capability of a brigade combat team and division network support company, which allows ESB assets including JNN and CPN to be employed to reinforce and regenerate these units or extend their capability with line of sight transmission systems.

Additionally, the Joint/Area Signal Company (C Company) of the ESB brings two high capacity SSS(v)3 systems, four CPNs, TAC-SAT and Troposphere Scatter range extension capable of supporting large command posts such as a Joint Task Force or an Army Service Component Command post. The Joint/Area Signal Company also brings a large cable and wire capability, which is in high demand around the world today.

The Army's first three expeditionary signal battalions deployed in support of Operation Iraqi Freedom in 2007, demonstrating to war fighters their full spectrum capability. The 63rd ESB and the 44th ESB were attached to Multi-National Corp-Iraq in support of corps and division elements, including many remote camps and stations. The 63rd ESB also provided a company in a more traditional ESB role supporting the 3rd Armored Cavalry Regiment, which has no organic Signal Company, in combat operations in Iraq. Meanwhile the 40th ESB, along with the attached 69th Signal Company (Cable and Wire), deployed as theater assets under the operational control of the 160th Signal Brigade and the tactical control of Multi-National Force-Iraq to operate and maintain the strategic communications network.

The 69th Signal Company is a theater asset not organic to the ESB. However the 11th Signal Brigade attached the company to the 40th ESB at their home station, Fort Huachuca, Az., for training and oversight. Although the 69th Signal Company and the 40th ESB were deployed on separate orders, they were authorized by the gaining theater signal command, the 335th SC(T)(fwd)(prov), to retain their pre-existing C2 relationship in order to provide the best support to the theater.

Most mission support provided by the 40th ESB and the 69th Signal Company consisted of installing, operating, maintaining and defending the strategic communications network, known as the operational base network in Iraq. Over the six years of its existence this network had had matured into the largest operational base network ever to support an active war zone.

The 40th ESB task organized all available assets to support forces in Iraq. The battalion also provided augmentation to the two strategic signal battalions in the theater, 54th Signal Battalion in Kuwait and the 25th Signal Battalion in Afghanistan. The 40th ESB also provided a tactical detachment consisting of two JNNs, five CPNs, and two Phoenix terminals to support U.S. Army Central's Early Entry Command Post and other tactical signal requirements in the CENTCOM area of operations outside of Iraq.

Having trained on tactical equipment in the months leading up to the deployment, the Soldiers, NCOs and officers of the 40th ESB and the 69th Signal Company, together known as Team 40th, had to quickly adjust to the strategic communications environment and become proficient in their mission as the Army component O&M unit in Iraq.

Fortunately, the skill sets developed during ESB fielding translated directly to the battalion's ability to effectively deliver Defense Information Systems Network and other enterprise services in Iraq. The Promina 400 and 800, Cisco Call Managers, routers and switches, firewalls and intrusion detection systems, IGX tactical switches that make up the JNN and SSS(v)3 are the same key communications components in all 14 technical control facilities operated by the 40th ESB throughout Iraq.

This commonality of equipment and skill sets later facilitated the transition of the 40th back to their tactical configuration and skill sets upon conclusion of their 15 month combat tour.

40th ESB Soldiers and Contract Partners

A critical factor in the success of the battalion was the continuity of knowledge and experience provided by contract employees. Over 450 Soldiers worked alongside over 500 employees from ITT, GDIT, and Data Path. The ITT employees in Iraq and throughout Southwest Asia work under a fixed O&M contract known as Total Army Communications Southwest Asia, Central Asia, Africa, funded by Network Command (NETCOM)/9th Signal Command (Army) and administered by 160th Signal Brigade. The mix of Soldier and contracted personnel allowed USARCENT to operate, maintain, and defend the operational base network in Iraq, Kuwait, and Afghanistan and provide tactical communications throughout the theater by augmenting the 160th Signal Brigade with only one ESB.

The 40th ESB exercised a unique and effective contract oversight model for the TACSWACAA contractors in Iraq. On behalf of their higher headquarters, 160th Signal Brigade, the 40th ESB Executive Officer acted as the contracting officer's representative and each of seven company commanders acted as the contracting officer's technical representative for their respective sites.

While the ITT employees performed O&M functions as directed by the contract, the Soldiers made the

Soldiers digging a trench for fiber optic cable at Contingency Operating Base Speicher, Iraq.

network operations accessible to the war fighters. That is, like they do with a tactical network, the Signal battalion ensured the network was available, flexible, and responsive to the needs of the customers, MNF-I and MNC-I. Soldiers at every site performed help desk operations, cable installation and maintenance, and assisted with technical control, network and system administration, and transmission systems. The battalion automation technician and NCOIC ran the Camp Victory LAN shop, which installed, monitored, and maintained over 1500 switches across the Camp Victory complex. Soldiers provided customer interface and were critical in facilitating coordination with various other contractors responsible for sustaining Signal facilities. The battalion S3 provided NetOps at the O&M level, providing network monitoring, configuration, and troubleshooting under the direction of the Joint Network Operations Control Center – Iraq, and working with theater information assurance, enterprise operations, and wide area network engineers to implement network enhancements, address network priorities, and coordinate authorized service interruptions. The battalion electronic maintenance technician along with a contracted power engineer and electrician planned and performed power and equipment upgrades.

On-site signal company leadership along with their ITT site lead counterparts maintained continuous and direct contact with customers and local leaders at each base, enabling them to determine requirements and support the war fighters' priorities. This structure enabled the MNF-I CJ6 to leverage the contract while retaining flexibility to maneuver the network using the 40th ESB as a single point of contact for network connectivity and delivering enterprise services across 14 bases in Iraq.

The 40th ESB headquarters coordinated resources and expertise across organization levels throughout the theater and collaborated with MNF-I, MNC-I, and MNSTC-I headquarters and other customers to identify requirements and build the network infrastructure on behalf of the 335th SC(T). Each company ensured equipment and material requirements were sent to the battalion S3, who worked with the S4 to prepare and process funding requests. As a theater asset TACON to the war fighter, the battalion had the flexibility to process these requests through either MNF-I, 160th Signal Brigade and the 335th SC(T) depending on the funding priorities of each.

Cable and Wire Support to the Theater

The ESB is authorized 10 MOS 25L wire and cable specialists in alpha and bravo companies, and another 20 in charlie company. By task organizing the attached 69th Signal Company with its organic companies, the battalion was able to provide resident expertise to plan, engineer, repair and install cable and wire infrastructure on demand at each of 14 bases in Iraq. The 40th ESB employed the 69th Signal Company command post to run the technical control facility, help desk, and cable operations at Taji Base, while its Soldiers provided installation of fiber optic, copper, and CAT 5 cable at Taji and across Southwest Asia.

This capability was critical everywhere in the theater because cable infrastructure requirements had grown well beyond those of the original O&M contract or any of the customers' ability to keep up with demand. Although many large cable projects were put on contract by the customer, the 335th TSC and MNF-I CJ6 often relied on Army cable capabilities where funding and time were limited. Examples include the movement of U.S. military and civilian personnel out of the Palace Compound in the International Zone to Victory Base complex; installation of the first commercial fiber demarcation facility at Victory Base; ongoing end user building and area distribution node remediation across Iraq; movement of a U.S. division headquarters to Basrah and the expansion of several bases in Iraq in response to the changing battlefield.

Tactical Signal Support to the Theater

USARCENT's 385th Signal Company was inactivated early in the 40th ESB's tour. To satisfy the need for a tactical capability for the EECP and to meet other theater tactical requirements outside of Iraq, the 40th provided a detachment of two JNNs, five CPNs, two TSC-156 Phoenix terminals, along with detachment leadership and support. This signal detachment, known as Detachment 40, brought unprecedented Signal capability to USARCENT to conduct C2 for full spectrum operations as demonstrated in Exercise Lucky Warrior 2008.

As expected, shortfalls emerged in using a signal support package designed to support a brigade size element to support an ASCC headquarters. The Joint/Area Signal Company was designed for just this type of mission. The Promina 800 and over 40 user cases provided by the company's SSS(v)3 gives the increased customer capacity

and network interface capability required for larger headquarters in austere locations. This capability is crucial as a way to get a technical control facility-like capability on the ground fast especially when a permanent facility is not appropriate due to cost and time constraints.

Another shortfall in the detachment operations was the lack of technical support for the platoon when separated from its parent ESB. A network technician (MOS 250N), an automation technician (MOS 251), and NETOPS support is required to augment the detachment and facilitate its operation independent of the battalion.

The 160th Signal Brigade, which is a theater strategic signal brigade and the ARCENT G6 were not equipped nor staffed to plan, manage and sustain a tactical network. The 11th Signal Brigade, which is a theater tactical signal brigade, was deployed in support of MNC-I and therefore not available to divert assets or exercise Network Operations in support of ARCENT requirements outside of Iraq. In spite of the shortfalls, Detachment 40 did a superb job successfully providing support to ARCENT exercises and to ARCENT units across the AOR. Det. 40 gave the G6 staff the experience they needed to plan for future support requirements.

Conclusion

The 40th Expeditionary Signal Battalion demonstrated the flexibility, agility, and capability the ESB brings to war fighters at all echelons across the full spectrum of operations. As the first ESB to deploy in support of a theater-wide mission, the 40th together with its contract employees and the 69th Signal Company, created a world class team that successfully accomplished the largest mission ever given to a single signal battalion. Their model for supporting strategic, tactical, engineering and installation requirements across the theater should be considered in

future mission planning and doctrinal updates.

Black Key Remote Distribution Saves lives

By CPT Brian A. Wilkins

Distributing communications security to Soldiers on out-sites in Iraq was risky business until the 146th Expeditionary Signal Battalion successfully rolled out a remote COMSEC Distribution Program.

As the first Reserve component expeditionary Signal battalion and first mobilized Reserve component expeditionary Signal battalion, the 146th ESB is leading the way in theater with the rollout of the Black Key Remote COMSEC Distribution Program. This program protects the lives and safety of 146th ESB Soldiers. By reducing or eliminating altogether the risky ground and air movement travel process, mission-critical COMSEC can be provided to distant out-sites in a matter of minutes without having to manually courier the COMSEC.

COMSEC distribution in Iraq to Soldiers on out-sites was a difficult and dangerous task involving convoys or flights to a larger hub. Spread out across 30 different sites, monthly COMSEC distribution by the 146th ESB CMO required a great deal of coordination and placing Soldiers in harm's way. Prior to deployment in October 2008, CSLA designated the 146th ESB as a pilot account to perform test and review on the Black Key Remote COMSEC Distribution Program. CSLA mission is to "serve as the Army Commodity Manager for COMSEC material on behalf of the Commanding General, CECOM LCMC."

In October 2008, SFC Robert Nuckols, 146th ESB Senior COMSEC Custodian, upgraded the LCMS workstation computer to version 5.0 in preparation for the implementation of the Black Key Remote COMSEC Distribution Program. LCMS automates the detailed accounting required for every COMSEC account. CSLA designated several other units as recipients of the pilot program, but because of SFC Nuckols' extensive COMSEC experience, the 146th ESB became the first Army unit in theater to use the new method of distributing COMSEC.

In February 2009, SFC Nuckols received training on the operation of the Black Key Remote COMSEC Distribution Program. Following the training, the ACES laptop used by the 146th ESB CMO was upgraded to version 1.9 and several RS-232 to 6-pin Serial cables were ordered in order to support the transfer of COMSEC from a user's SIPR laptop to the SKL.

The Black Key Remote Distribution Program is a multi-part process that involves the LCMS workstation, ACES laptop, user-provided SIPR laptop, and operator's SKL. The process starts at the LCMS workstation where a red key is converted into a black key. The TrKEK encrypted black COMSEC key is then transferred to the ACES laptop via 1.44 MB Floppy diskette. On the ACES laptop, the equipment platform is combined with the encrypted COMSEC key and converted to a BIN file. A CD-R is then used to copy the BIN file from the ACES laptop to any SIPR workstation. The BIN file is then sent over the SIPRnet to the remote site operator (i.e. AKO-S). On the remote site SIPR laptop, a small and simple utility known as the Tier3 Download Utility is used to transfer the black key from the SIPR laptop to the SKL or DTD using the provided RS-232 cable. The SKL has the TrKEK, which is used to decrypt the encrypted black key. For DTD-encrypted transfer, the DTDs must have the same TrKEK key. When the operator is ready, they transfer the key into the TED, DED, In-Line Encryptors, or radios in order to be operable on the network. Total time to transfer the file from the SIPR laptop

to the SKL is approximately two to three seconds. Upon destruction of the COMSEC in the SKL for the old key and on the SIPR laptop, the operator scans in the generated EKMS worksheet using a standard USB scanner and emails the signed documentation to the CMO on SIPRNet.

Since April 2009, the 146th CMO has distributed PPK, FH load sets, RFMOW, KIV7, and KIV19 keys to 146th ESB Technical Control Facilities, TACSAT, JNN, and CPN teams. The 146th ESB Black Key Remote Distribution Program has also been used to successfully support users of MBITR handheld radios for QRF teams on out-sites by combining the PJC initialization key and COMSEC radio key then sending these keys to remote users on the SIPRNet. The end result of the 146th ESB success is the continued protection and safety of Soldiers lives by harnessing the latest advances in technology to solve hard problems. Recently, MNC-I selected the 146th ESB to assist with theater-wide rollout of the Black Key Remote COMSEC Distribution Program. The success of the Black Key Remote COMSEC Distribution program culminates with a widely successful deployment for the 146th ESB during Operation Iraqi Freedom 08-09.

CPT Wilkins currently is serving in Iraq ISO Operation Iraqi Freedom 08-09 as the assistant S3 and systems engineer for the 146th ESB until October 2009. He holds a Bachelor of Science degree from Florida Institute of Technology and works as a software engineer in Florida's Space Coast when not deployed.

ACRONYM QuickScan

ACES - Automated Communications Engineering Software
BIN - Binary
CECOM - Communications and Electronics Command
CMO - Communications Management Office
COMSEC - Communications Security
CPN - Command Post Node
CSLA - Communications Security Logistics Activity
DED - Data Encryption Device
DTD - Data Transfer Device
EKMS - Electronic Key Management Software
ESB - Expeditionary Signal Battalion
FH - Frequency Hop
ISO - In Support Of
JNN - Joint Network Node
KM - Knowledge Management
KIV - Key Initialization Vector
LAN – Local Area Network
LCMC - Life Cycle Management Command
LCMS - Local COMSEC Management Software
MBITR - Multiband Inter/Intra Team Radio
MNC-I - Multi-National Corps-Iraq
MOA – Memorandum of Agreement
NET – New Equipment Training
NIPR - Non-secure Internet Protocol Router
OIF – Operation Iraqi Freedom
PJC - Private Josecki Component
PPK - Pre-Placed Key
QRF - Quick Reaction Force
RFMOW - Replacement Frequency Modulation Order Wire
RS-232 - Recommended Standard 232

Army Mentorship is about developing leaders

By MAJ Anthony G. Glaude

Everyone in the Signal Corps should be concerned with mentorship and here is why.

My understanding of mentorship has been developed during almost 29 years of wearing the uniform as an enlisted Marine, a Signal noncommissioned officer, Signal chief warrant officer and now a Signal Army commissioned officer.

The current Army Field Manual 6-22 on Army leadership addresses mentorship where previous leadership manuals did not.

The U.S. Army defines mentorship as the voluntary developmental relationship that exists between a person of greater experience and a person of lesser experience that is characterized by mutual trust and respect (Army Regulation 600-100). Mentorship is an obligation and a duty for every leader at every level in every military service to be a mentor to at least one subordinate. This does not rule-out peer-to-peer mentorship as well. Mentorship is not limited to the officer corps. Senior noncommissioned officers should serve act as mentors to enlisted Soldiers and officers alike. Mentors play an influential role in helping their subordinates or protégés to succeed, not in causing them to succeed. It is unfortunate that too many times mentors and protégés are perceived as showing favoritism on one hand or "brown-nosing" on the other. When I talk to junior officers and junior enlisted

---

"The intent of my article is to prompt Signal leaders at all echelons to think about mentoring leaders and future leaders of the regiment."
MAJ Anthony G. Glaude
U.S. Army Signal Corps

---

personnel on why they are leaving the service, most often they do not fault pay or deployments. Usually they say it is because of the lack of mentorship. Throughout the relationship between the mentor and the protégé, the mentor coaches, provides advice and constructive criticism. The mentor works to maximize the protégé's strengths and minimize weaknesses. Some of this is done through shared experiences. Honest dialogue, observations and feedback are at the heart of the relationship. It often appears to me that some leaders are too busy, i.e. planning this operation, executing that mission, preparing this briefing, etc. Yes, operations and missions are important, but remember when time is taken to mentor someone; an invaluable investment is being made in the future of our military as well as our nation. While serving as a company commander, I cannot remember a time when my first sergeant and I did not look for opportunities to mentor members of our unit. We often saw very positive results because of our mentorship sessions and shared philosophy when the company carried out its mission. Mentorship is a shared responsibility of both the mentor and the protégé. While potential mentors have the responsibility to scan and seek potential protégés, the potential protégé has the same responsibility to seek a mentor.

Mentoring is a voluntary component of self-development. It promises no reward of riches or guaranteed promotion for those who participate. Whether the goal is individual self-development or overall unit effectiveness, mentoring can provide the glue that holds people together in an effective organization.

Now, you might wonder why this article was submitted to such a technical focus magazine like the Army Communicator. Well, I believe a big part of the problem with Signaleers is we tend to have a mind-set of technical competence only. With this mindset we seem to believe that if we are smart communicators and the message gets through, then we are successful. In part that is true. But we have a multitude of other obligations. One of these other critical obligations is mentoring others every chance we get.

The lack of mentorship reaches across all branches of the Army, but especially the Signal Regiment. I understand the importance of the technical aspect of the Signal Branch, but I also believe there's a need for the non-technical aspect of our branch as well. The intent of my article is to prompt Signal leaders at all echelons to think about mentoring leaders and future leaders of the regiment. I hope this article will start the dialog on mentoring at the senior officer and senior noncommissioned level.

I leave you with a final thought. The legacy that leaders leave behind is the future leader. Being a mentor is about investing in our future military and nation.

MAJ Anthony Glaude is a Signal officer presently serving with the U.S. Military Training Mission in Saudi Arabia. He has served in the military for nearly 29 years, five in the Marine Corps and 24 years in the U.S. Army as a Signal NCO, and chief warrant officer. He previously served as battalion executive officer in the 442nd Signal Battalion at Fort Gordon.

LandWarNet 2.0
Is your workforce ready?

By CW3 Dannie Walters

Here is a typical day in the life of a LandWarNet 2.0 reality that explores the challenging changes units are facing and offers some suggestions on how to prepare your IT workforce.

It's Monday and just another day in the office until your boss calls and says that he is locked out of his network account. You think "no problem" I will just notify my battalion S6 and they will be able to handle the issue. The BN S6, however, says that their automation section does not have the privileged access needed to help you directly and that they will have to call the enterprise help desk. You are not satisfied with this answer. The boss could end up waiting all day. Trusting the S6 to get the task done is not the issue you just resent the idea of going through a middle man to get such a simple task completed. You ask for the enterprise information technology help desk number and call yourself. The staff at the help desk is very courteous and professional and after a few questions your problem is resolved.

But is your problem really resolved? Why does your unit have to go through another help desk when you have your own S6 section? Moreover, why did your unit have to submit an appointment letter for an IMO and other IT representatives just to become a relay point to the real IT help desk?

These are some of the problems units are actually facing with what I call "LandWarNet 2.0". LandWarNet (formally called) is the Army's part of the Department of Defense information technology infrastructure that enables operational forces' to "reach back" for data, in the form of high definition intelligence products, voice, video, and data. Since LandWarNet's inception in February 2004, its growth has spiraled ever higher taking on one task after another. One crucial goal was to prepare the central workforce, the one responsible for the inner workings of the operation.

Just five years ago as specified in the DOD Directive 8570.1 (Information Assurance Training, Certification, and Workforce Management directive), DOD devised a five year plan to upgrade its workforce "with the knowledge, skills and tools to effectively prevent, deter, and respond to threats against DOD information, information systems, and information infrastructures." In short, DOD requires that their inner workforce have and sustain commercial IT industry standards certifications (e.g. CCIE, CCNA, MCSE, CISSP, CompTIA Security +, CompTIA Network + and others) to do their job.

The DOD has met its goals and has extended its commitment to all levels, with the intent that, "personnel who are not appropriately certified within six months of assignment to a (IT) position or who fail to maintain their certification status shall not be permitted privileged access."

So how does this apply to your unit? With LandWarNet 2.0 a unit needs more than an appointment letter, familiarization training, and OJT to have privilege access. Today you have to meet all the new requirements specified in DOD 8570.1 if you want to have an effective IT workforce that can meet your unit's IT demands. Otherwise, your unit must rely heavily on outside sources to provide the communication and automation needs.

When someone in your unit accidentally erases the entire battalion operations database, who would you rather call, an enterprise help desk miles away or your own resident IT personnel? Clearly a local resident presence is preferable. So how can your unit maintain an effective IT workforce?

What has changed in the Army's network? One immediate change everyone recognizes is that computers, collaborative suites (Microsoft Net Meeting, Adobe Breeze), and Army Battlefield Command System equipment are ubiquitous throughout units ranging from the brigade to the company level. Thanks to the LandWarNet concept that delivers services directly to the war fighters. As a result of this increased capability, the number of IT products to manage has increased exponentially.

Virtually every month there is a new implementation of a different IP delivered service, collaborative suite, or ABCS equipment. From the perspective of those on the ground, the amount of new products and services seems overwhelming as many scramble to learn yet another system to help customers. During our tour in OIF 08-09 I know of at least two dozen programs that were either new to the Army or new to us at the brigade and battalion level.

Modularity is one of the culprits that has increased the number of IT products at the brigade and battalion level. For instance, Common Access Card production was once executed at the Personnel Services Detachments, but is now executed at the Brigade S-1 level due to Personnel Service Delivery Redesign. To keep up with all the changes modularity presents, a good idea is to simply document the changes. As easy as that sounds, many units go through the toil of research and other administrative steps to fix a problem or install a service but in the end fail to document their solution.

During our tour, we could have saved a lot of time if we had a spreadsheet of port numbers and other specifications to help us describe the new systems to the network administrator responsible for the firewall configuration. With the number of new systems we have,

this simple act would have made our transition a lot smoother.

Another culprit for this increase in IT products is the Army's effort to procure commercial off the shelf equipment that applies the concept of "everything over Internet protocol." This concept has brought an avalanche of new products to the marketplace such as voice over IP phones, video over IP, video teleconference suites over IP, and even radio over IP products. The Army, to its credit has chosen, as part of it strategic goals, to replace a lot of the old proprietary systems with comparable EOIP equipment that is easier to install, manage, and compliments an emerging broadband data capable world.

This presents a few challenges to brigades and battalions. Most of the systems I mentioned used to be items that we had total control over. Most electronics now have an IP address. In the past, equipment like VTC suites, secure Telephone equipment phones, and conference call equipment just needed an active phone line and you were in business. Today, LandWarNet provides the same services but with the subtle price of your unit not having total control over the product. That is to say that you cannot relocate your VTC suite to the conference room downstairs without calling the Network Service Center to make the necessary switch changes to allow this to happen. You also can not move a secure telephone to another area until you get the approval of the NSC. In contrast with a STE phone you only needed local approval through your unit's security manager.

Another big change for units on the network is that your unit does not own their own portion of the network. This includes to a great extent your organic signal assets. Gone are the days when you could bring your own equipment and set it up according to your own Standing Operating Procedure and then contract for services off the backside to a local Strategic Entry Point or tunnel through another Internet Service Provider for transport to the larger network. LandWarNet's goal is to "develop & maintain a secure, seamless, interdependent LandWarNet network by

leading development and enforcing the use of integrated enterprise architecture." This is a difficult concept for units to accept but just like the equipment we must also evolve. Units need to move their focus from owning the equipment or even part of the equipment to understanding that they are part of a larger network, a larger network with shared risk and vulnerabilities associated with the digital world. A common saying that is more true in today's network than yesterday's networks is that a "risk to one is a risk to all". The changes are many and so are the challenges. My unit deployed to Iraq in support of OIF 08-10. This is my second time deploying to this region and the way we managed the network at times was extremely different from the last time. As we sat around the table for our first Contingency Operation Base S6 meeting the first thing I noticed was that this was not an all-Army network. Being a product of the Mobile Subscriber Equipment days I was used to fielding our own Army driven network. This time around we shared the network with DOD civilians, service members from other branches, and this entity called "enterprise." Although enterprise was not a person we talked about it a lot as we all came to grips with the reality of the new enterprise architecture.

Just as often as the word "enterprise" had entered our conversations was the issue ownership--of who did what. In order to figure out ownership, most people needed a reference point (i.e. the Army does it this way, or the Air Force this way.) So which way is right? The framers of the LandWarNet concept anticipated this situation and opted for a centralized approach through the network service centers. "Because the Army is moving to a modular, expeditionary force, LandWarNet must follow suit and become more streamlined through an enterprise structure. The Army plans to achieve that goal with the use of the network service centers, which federate networks and creates a seamless network wherever a Soldier is," LTG Jeffery A. Sorenson said.

As most units who have deployed are finding out you are

not in charge of the network. You are not even in charge of your part of the network although you can negotiate a lot of the terms. Unfortunately a negotiator in a unit's MTOE only includes a few members of your IT workforce. I would be less than truthful in saying that we had a lot of IT work to do. The NSC did most of the work for us. We spent most of our time trying to avoid duplication of effort. This is frustrating to a lot of signal Soldiers but I know this to be an unfortunate side effect of change. There is no doubt that we are headed in the right direction despite the drastic drop off in IT work at the unit level. I remain confident that deployed Signaleers will provide input to help their leaders to make necessary adjustments which will improve the overall goal of providing garrison like services to the Warfighter. I am also always reminded of a statement from the motion picture "Glory" where the command sergeant major, played by Morgan Freeman, reminds his unit that even though they were not in the fight now that surely the war would soon call upon them to "ante up and kick in like Soldiers". The same can be said of the military IT workforce members who are performing jobs outside of their MOS and are contributing to the signal mission on a limited basis. I have been in the service long enough to know that this is a momentary condition and eventually all of us will be in the fight soon enough.

Managers on the ground can help by establishing memoranda of agreements to share the work and hence give the trained pools of Soldiers the opportunity to participate and excel in projects that take a group effort to complete. For instance, I have not seen many installations that have their wiring diagrams and signal flow charts completely accurate. This would take a group effort from both those inside the organization and those servicing the organization. Another good example of a good time to share is when there is a surge in personnel and extra labor is needed to do base lining of computers, improvements to the wiring of a

building, or installation of communication services to a new building. In a deployed location, there are many jobs that could be distributed to signal Soldiers to keep them proficient in their skills. Units need to communicate what resources they have and offer them to their NSC. By seeking solutions jointly and sharing the work, an organization and their NSC can create a working relationship that can ultimately benefit the signal Soldier and more importantly their "customers".

Our BDE S6 section (especially the NCOs) in coordination with our COB NSC did a great job at spear-heading re-wiring, documentation, and installing new services to buildings on the COB during our tour. The ironic thing about it was that no one told them to do it. They did it for the pride of Signal and providing services to the war fighter. Improvements were seen all over the COB and lessons learned were used to help design the internal infrastructure of new buildings. Even though most of the improvements are transparent to the user, ultimately everyone benefits from new wiring closets, documentation, labeling, and proper routing of cables.

While you are waiting to get back in the fight, you need to be aware that the weapons of our warfare have changed drastically. As the DOD specifies and Soldiers of many of the units that have returned from the war zone have found out, no one is exempt from the workforce requirements. "To support the GIG infrastructure security requirements, certification standards apply equally to DOD civilian, military, and contractor personnel including those staffed by local nationals."

The good news is that the Army and DOD do have a lot of resources available to support our efforts. During our deployment we found that trying to get certified is time consuming and challenging. Both our Soldiers and training managers were busy preparing themselves through various methods. Some Soldiers prepared by enrolling in IT programs which were offered by colleges and universities. Others used self-help study methods to prepare for their certifications. During the deployment, my unit purchased IT study kits, started a testing center, and formed study groups to help those who wanted assistance with their self-study efforts.

Starting a test center was easier than I thought. On occasions we had to call the technical assistance desk for help. Fortunately, they were helpful and patient enough to assist us in establishing our "authorized test center." Eventually, we prevailed and now have a fully functioning test center. Most personnel who have used the facility expressed appreciation that we placed a test center on the COB. The alternative would have been to travel to another COB which for some would have removed personnel from their primary jobs for several days or even weeks. The space "A" military flight system that often has challenges of bad weather and prioritizing personnel for flights was a major factor restricting personnel from moving reliably fo another COB for training. At the beginning we had about a 50% pass rate with six individuals who teste. With experience and a few study groups we have encouraged 30 individuals and achieved an overall 71% pass rate.

During our tour, we hosted four study groups, which amounted to 40 students who would come to classes after normal work hours for three days each week. We called these study groups instead of instructional classes due to the fact that we did not have certified instructors to teach CompTIA Network +, CompTIA Security + as well as other classes. The percentage of those passing the certification test improved slightly but not enough to encourage more individuals to take the exams.

Recently, we gained a windfall when we ordered training material from Carnegie Mellon University, which provides 8570.1 training for the DOD. The classes are delivered via the Web, and the courses often took a long time to download in our bandwidth-challenged environment. This was very distracting for students. We contacted Carnegie Mellon University officials. They responded, providing us with the same course content on a DVD. With their permission, we duplicated the DVD for more than 124 personnel. Many of these personnel thought the DVDs were a great source of information, which gave them a "hands on approach" when participating in demonstrations and labs that were also included on the DVD. Most said they appreciated the fact that there was an actual instructor giving them a lecture on the subject as compared to just reading it out of a study kit. With the DVDs, we received the preparatory courses on CompTIA Network +, CompTIA Security +, CCNA, and even CISSP, which is designed to introduce students to the test format, as well as offer quantitative feedback on knowledge of course materials. If students purchased the same comparable instructional DVDs in the commercial market it would cost more than $5,000. Individuals responded positively to the DVDs and instructional material. We believe this will lead to an increased number of personnel seeking and receiving their certifications.

Thanks to input received from other warrant officers and IT professionals here are some suggestions on how a unit can posture its IT workforce to succeed in accordance with DOD 8570.1M:
•Survey your IT infrastructure and add the training required to manage your IT assets (i.e. boot camps and official courseware). Remember that this is an annual requirement.
•Keep up with the efforts of the Signal Center and TRADOC. Adjust your training plans accordingly.
•Find the 8570.1 training being offered in your region. If you do not know where to ask consult with your servicing NSC for help.
•Become familiar with the DOD and Army Information Assurance best practices and incorporate them into your training plans and SOP's
•Appoint a training manager for your IT Workforce.
•Your training managers need to register all of the workforce through the Army Training and Certification website.
•Counsel the members of your workforce on the training requirements for their duty position level. Give a deadline to get the training completed and hold them accountable.
•Request free vouchers for your Soldiers and DOD civilians.
•Notify your Direct Reporting Unit or MACOM of your
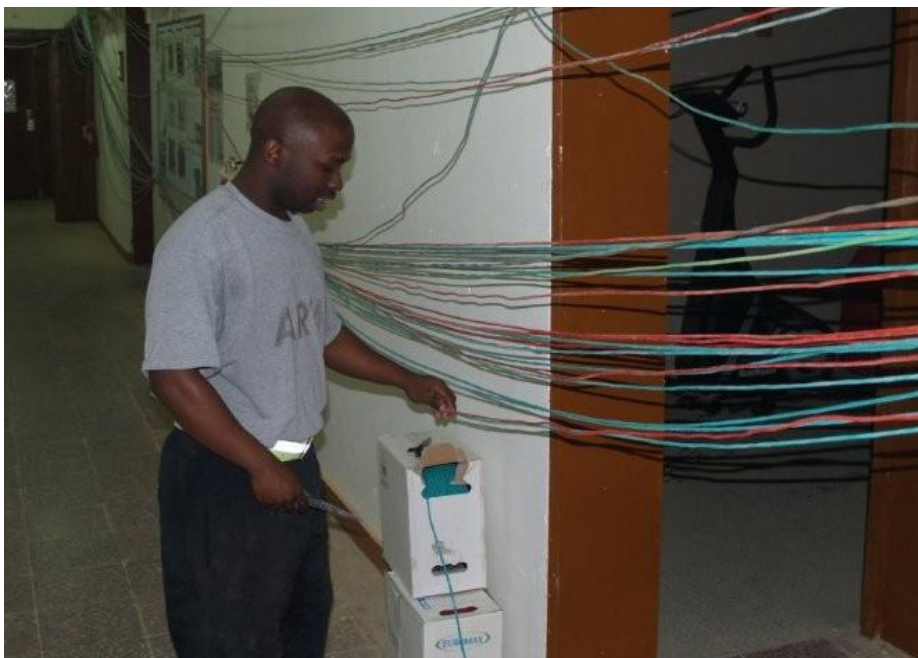
SPC Derrick Paynter, B Co 16th STB does his part to implement a communications renovation plan at COB Q-West, Iraq.

ing centers such as, Pearson VUE or Thompson Prometrics.
•Recruit local talent. You will never know what you have until you ask. In Iraq we had a warrant officer in the guard who was a certified CISSP and did that type of work for a major company in the private sector.
•Invest in IT Self-Study Certification kits. This will not only provide ready-reference material for your IT personnel but will also provide material for those who have the desire to study on their own. Sometimes you may have Soldiers who are talented enough to pass an exam using this method.

CW3 Dannie Walters presently works as a Network Management Technician for the 16th STB, B CO and has earned a Bachelor's Degree from the University of Miami. Additionally, he possess CompTIA, Network + and CCNA certifications.

IT Workforce posture and work out a streamlined agreement to manage your own subunit. Remember to present your proposal as a win-win situation. Ensure you work together as one team to operate, maintain and protect the network.
•Establish a working relationship with a good IT Certification training program. In some cases you can check with other units and participate with their training. Learn from their challenges.
•Locate a testing center nearby so that you can arrange for your Soldiers to test when they are ready. Some units have setup their own test site through one of the big test-

IT Lingo

• **CCIE** - Cisco Certified Internetwork Expert is the highest level of professional certification offered by Cisco, a major router manufacturer.
• **CCNP®** - Cisco Certified Network Professional validates knowledge and skills required to install, configure and troubleshoot converged local and wide area networks with 100 to 500 or more nodes.
• **CCNA®** - Cisco Certified Network Associate validates the ability to install, configure, operate, and troubleshoot medium-size route and switched networks, including implementation and verification of connections to remote sites in a WAN.
• **CISSP** - Certified Information Systems Security Professional is an independent information security certification governed by the International Information Systems Security Certification Consortium, commonly known as (ISC)²
• **COMPTIA** - Computing Technology Industry Association Network+ validates the knowledge and skills of networking professionals. CompTIA Security+ validates knowledge of systems security, network infrastructure, access control, assessments and audits, cryptography and organizational security.
•**MCSE** - Microsoft Certified Systems Engineer certification verifies expertise in designing and implementing the infrastructure for business solutions based on the Microsoft Windows 2000 Server platform and Windows Server System.

ACRONYM QuickScan

ABCS - Army Battlefield Command System
COB - Close of Business
COTS - Commercial Off the Shelf Equipment
DRU - Direct Reporting Unit
EOIP - Everything Over Internet Protocol
GIG- Global Information Grid
IMO – Information Management Officer
IT - Information Technology
LN- Local Nationals
MSE - Mobile Subscriber Equipment
MOS – Military Occupation Specialty
MTOE - Modified Table of Organization & Equipment
NSC - Network Service Centers
OIF – Operation Iraqi Freedom
P**SDR** - Personnel Service Delivery Redesign
SOP - Standing Operating Procedure
STE - Secure Telephone Equipment
STEP - Strategic Entry Point
VTC – Video Teleconference
VOIP – Voice over Internet protocol

LandWarNet Update

Training notes from the Directorate of Training

Committed to maximizing distributed Learning resources to provide "relevant" and just-in-time training for the Signal Regiment and beyond

By Directorate of Training staff

The Signal Center Directorate of Training is committed to utilizing every dL resource at its disposable to provide critical training to every Soldier and civilian in need of instruction regardless of location or duty position.

Recently the DOT implemented two new outside-the-box training initiatives that underscore the organization's commitment to support the training mission of an Army at war. These initiatives are Land-WarNet-eUniversity training support to network enterprise centers and digital training facility support to the Wounded Warrior Program.

LWN-eU – Training Support to Network Enterprise Centers

LandWarNet-eUniversity now supports Army NECs by establishing an LWN-eU NEC training site for individual NECs. LWNeU NEC training provides access to an on-line training capability for each NEC based on the unique mission requirements.

NEC Universities

An NEC university is a website customized to provide NEC staff access to LWN-eU training and products for their mission. NEC universities provide direct access to information technology skill training, down-loadable training products (computer-based training), simulations, interactive multimedia instruction products), and current links to other available training sites. Available training

NEC universities provide direct access to LWN-eU information technology course training materials, presentations and documents. LandWarNet -eUniversity uses Blackboard, a robust learning management system, to host NEC training content. This content includes training such as Microsoft e-Learning, CCNA introductions, VoIP, Lean Six Sigma, Power Steering, and several links to required training sites like IA. Also available via the NEC university is the LWN-eU Signal knowledge repository, which is a collection of over 650 downloadable products including 28 high-end simulators, 100+ CBT products, information technology technical documents, presentations, and manuals.

The LWN-eU Signal knowledge repository also provides an upload capability for NEC staff to upload local and NEC developed training content to share across the Regiment. All training posted to the NEC Focus Training site and NEC universities is approved by the Directorate of Training.

Who's using the Land-WarNet Portal and NEC Universities?

Currently, there are 58 NEC universities providing IT and NEC unique training via their own customized university. You can access the NEC Focus site or your NEC University by using the following instructions:

Eisenhower Army Medical Center Transition Training Academy instructors facilitate Information Technology training for Wounded Warrior Program Soldiers at the Allen Hall Digital Training Facility in Building 29813, Room 132 at Fort Gordon.

1. Go to https://lwn.army.mil
2. Login using your AKO credentials.
3. Click the "Training for Army NECs" button.
4. Click to enroll/access your NEC University.

NEC Frequently asked questions

Q. Can I add locally created unit training to my NEC University?
A. Yes. Many NECs also use their universities to host mission specific training, NEC mandated training and information briefs.

Q. How long does it take to build an NEC University?
A. Your NEC university can be fully loaded with training and operational within three days.

Q. How do I access my NEC university?
A. Military and Department of the Army civilians can access their NEC university using AKO credentials or CAC Card.   Contractors employed by an NEC can also access their university with approval of their government supervisor. NEC universities are available 24/7 to your staff regardless of their location. All

you need is access to the Internet.

Q. What are the costs?
A. There are no costs for Land-WarNet eUniversity NEC universities.

Q. Who manages the training content?
A. NEC universities provide significant reduction in training planning time. The Fort Gordon LLC staff locates, organizes and loads your NEC-requested training content. NEC universities allow your training staff to focus on training – not on how/where to get training material.

Q. How can I track the training?
A. The Blackboard LCMS features provide supervisors and training managers the tools and ability to
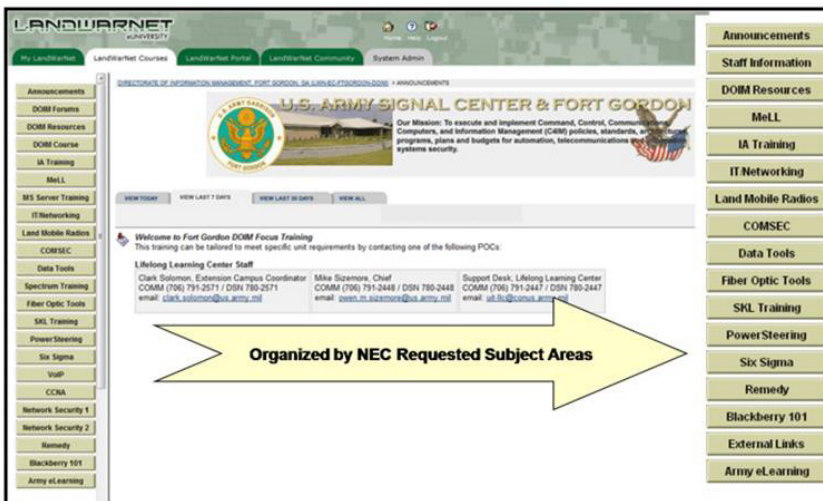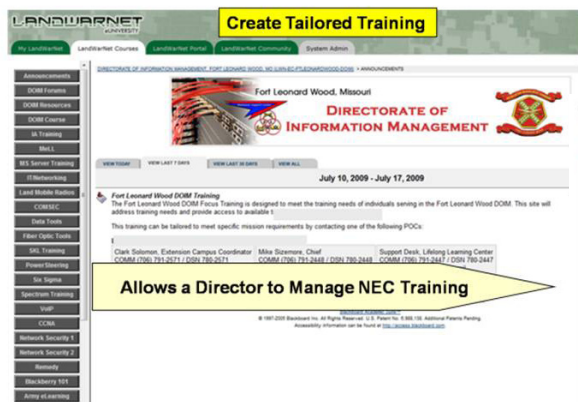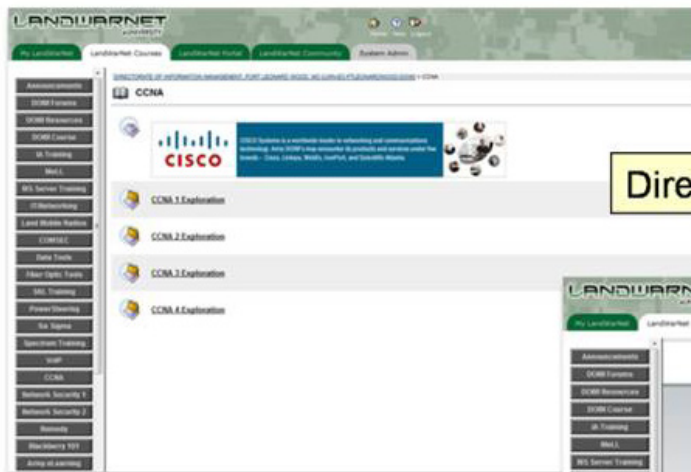
Direct links to Army/Joint IT training

Direct links to COTS Training
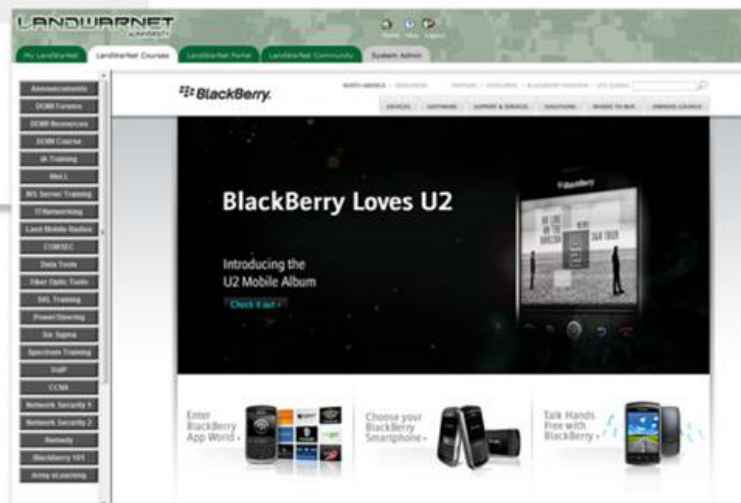
monitor, track, and assess training for the entire NEC or down to the individual employee level.

Q. Is the training relevant?
A. NEC Universities provide NEC staff with a single location to access the most up-to-date training developed by the Signal Center and the joint Signal community.

For more information on, or to request an NEC University, contact Mr. Clark Solomon, LWNeU Signal Extension Campus coordinator, clark.solomon@us.army.mil, DSN 780-2571 or commercial (706) 791-2571.

Eisenhower Army Medical Center TTA instructors facilitate information technology training for WWP Soldiers at the Allen Hall DTF, Bldg. 29813, Room 132.

The Vital Role Digital Training Facilities Play in the Wounded Warrior Project

The Transition Training Academy was established as a joint effort of the U.S. Department of Labor, Veterans' Employment and Training Service, Cisco, the Office of Disability Employment Policy and the WWP. The WWP administers the program

as a part of their commitment to the service men and women that have been wounded or injured on active duty.

The Eisenhower Army Medical Center at Fort Gordon, Ga. is one of the current TTA sites (other sites include Naval Medical Center, San Diego; Brooke Army Medical Center Hospital located at Fort Sam

Available Training For Army NECs

- Microsoft eLearning Library (MeLL)
- Microsoft SMS/MOM Training
- IA Training
- IT/Networking (including A+, TCP/IP, Unix and Oracle)
- Land Mobile Radios
- COMSEC
- Data Tools
- Fiber Optic Tools
- SKL (Simple Key Loader)
- PowerSteering
- Lean Six Sigma
- Spectrum Management
- VoIP
- CCNA Guidelines
- Remedy
- Blackberry 101
- Network Security & VPN
- Signal Center NEC Course Material

Houston, San Antonio, Texas). The DOT has provided the use of the local DTFs at Fort Gordon for the TTA site manager to facilitate training for soldiers enrolled for training via the Eisenhower Army Medical Center.

Recently, SFC Kaseen Murray of the Distributed Education Branch, interviewed one of the training coordinators for the WWP, Mr. Richard Willis, to find out firsthand how the Signal Center DTFs have benefited the TTA. The following questions and answers were recorded in the interview:

Q: How did you hear about the Signal Center DTFs?
A: Ms. Vivian Sanders, the DTF Manager, took the initiative to set up a meeting with Mr. Curtis Smalls, the Wounded Warrior Project Regional Instructor & Recruitment coordinator, to explain how the DLS computer labs and classroom availability would benefit the WWP Soldiers.

Q: What are some of the features you like best about using the facilities?
A: The fact that the classrooms are downstairs with ramps. The computers and projectors for training slides, and a lot of space (desktop space for WT laptops).

Q: How easy was it for you to begin utilizing the facilities for training?
A: Fairly easy; main problems being CAC access and firewalls. CACs have now been provisioned for most Warriors. Also, network modifications have been made for the Soldiers to access ARIES for online training.

Q: Why do you feel the DTFs are a good environment for training Soldiers in WWP?
A: The DTF is a wonderful environment with great resources that makes training easy and comfortable for the Wounded Warriors.

Q: What do the Soldiers in the program like best about the facilities?
A: Easily assessable, close proximity to their living quarters and main area of operations, comfortable environment. Also, computers/printers are readily available.

Q: Do you have any other comments about the facilities?
A: Great support from Fort Gordon thus far. Ms. Sanders, the DTF Manager and Ms. Thompson, the WWP occupational therapist, are both a wonderful help. They make the whole thing possible by planning the time and space for the Soldiers to train around their various medical appointments.

Digital Training Facilities are Available to Support Your Training Mission

Army Soldiers and DA civilians have access to a DTF with top-of-the-line equipment and connections allowing access to the Internet and training classes at a phenomenal speed – for free. There are 226 DTFs at 92 locations throughout the world, and three of those facilities are located at the Signal Center.

Your Local DTF Provides the following benefits: A free, on-base location for Soldiers to access web-based mission critical training away from the workplace and distractions of home
• Increased training flexibility and opportunities
• Less time away from your duty station and family
• Global Collaborative Training Environment:
   –Networked computers that support CD-ROM based training
   –Video Tele-training (VTT) equipment to support room based courseware transmission from remote sites
   –Computer servers to support the network and provide a high-speed gateway from the classroom to Army intranets and the internet
   –Functional capabilities include a student learning space and DTF scheduling and collaboration tools

If you would like to reserve any one or all three of the DTFs located at Fort Gordon, contact the Signal Center DTF manager at (706) 791-7159 (DSN 780) or the Distributed Education Branch chief , DTD, DOT at (706) 791-2303.

State-of-the-Art Support for Army Force Generation

Interactive multimedia instruction greatly enhances and standardizes instruction for active component and reserve component units throughout the force when self-development, sustainment, refresher and remedial training are conducted. The following virtual/PC-based simulators are available via the LWN-eU (https://lwn.army.mil) web portal to facilitate communications equipment operations training:

FIELDED SIMS

1. WIN-T INC 2
Fielded: JUN 09
Target Audience: 25N10

2. SSS (v3) Transit Cases
Fielded: MAR 09
Target Audience: 25N10, 25F10

3. WIN-T INC 1
Fielded: DEC 08
Target Audience: 25N10, 25F10

4. SSS (v3)
Fielded: JUN 08

Current NEC Universities

- 2nd Sig Bn (Germany) (Enroll / Returning User)
- 5th Sig CMD G3 ESO-D (Enroll / Returning User)
- 30th Sig Bn (Hawaii) (Enroll / Returning User)
- 36th Sig Bn (Korea) (Enroll / Returning User)
- 39th Sig Bn (Belgium) (Enroll / Returning User)
- 43rd Sig Bn (Germany) (Enroll / Returning User)
- 52nd Sig Bn (Enroll / Returning User)
- 59th Sig Bn (Enroll / Returning User)
- 69th Sig Bn (Germany) (Enroll / Returning User)
- 102nd Sig Bn (Germany) (Enroll / Returning User)
- 509th Sig Bn (Italy) (Enroll / Returning User)
- Aberdeen Proving Grounds (Enroll / Returning User)
- ASA SOUTHCOM (Enroll / Returning User)
- Blue Grass Army Depot (Enroll / Returning User)
- CECOM-LSSO/St. Louis (Enroll / Returning User)
- Detroit Arsenal (Enroll / Returning User)
- Dugway Proving Grounds (Enroll / Returning User)
- Fort Belvoir (Enroll / Returning User)
- Fort Bliss (Enroll / Returning User)
- Fort Buchanan (Enroll / Returning User)
- Fort Buckner (Okinawa) (Enroll / Returning User)
- Fort Campbell (Enroll / Returning User)
- Fort Carson (Enroll / Returning User)
- Fort Dix (Enroll / Returning User)
- Fort Eustis (Enroll / Returning User)
- Fort Gordon (Enroll / Returning User)
- Fort Hamilton (Enroll / Returning User)
- Fort Hood (Enroll / Returning User)
- Fort Huachuca (Enroll / Returning User)
- Fort Irwin (Enroll / Returning User)
- Fort Jackson (Enroll / Returning User)
- Fort Leavenworth (Enroll / Returning User)
- Fort Leonard Wood (Enroll / Returning User)
- Fort Lewis (Enroll / Returning User)
- Fort McCoy (Enroll / Returning User)
- Fort McPherson (Enroll / Returning User)
- Fort Meade (Enroll / Returning User)
- Fort Monmouth (Enroll / Returning User)
- Fort Myer (Enroll / Returning User)
- Fort Polk (Enroll / Returning User)
- Fort Riley (Enroll / Returning User)
- Fort Rucker (Enroll / Returning User)
- Fort Sam Houston (Enroll / Returning User)
- Fort Sill (Enroll / Returning User)
- Fort Stewart (Enroll / Returning User)
- JFHQ-AKARNG (Enroll / Returning User)
- JFHQ-Arizona ARNG (Enroll / Returning User)
- Picatinny Aresenal (Enroll / Returning User)
- Pine Bluff Arsenal (Enroll / Returning User)
- Red River Army Depot (Enroll / Returning User)
- Redstone Arsenal (Enroll / Returning User)
- Rock Island Arsenal (Enroll / Returning User)
- USAG-Yongsan at Korea (Enroll / Returning User)
- USAR NEC, Fort McPherson (Enroll / Returning User)
- White Sands MR (Enroll / Returning User)
- Yuma Proving Ground (Enroll / Returning User)

Target Audience: 25N10, 25F10

5. Phoenix Upgrades (Alpha Version)
Fielded: JAN 08
Target Audience: 25S10

6. Phoenix Upgrades (Bravo Version)
Fielded: JAN 08
Target Audience: 25S10

7. JNN Upgrades v2 (Spiral 5-7)
Fielded: DEC 07
Target Audience: 25N10

8. STT Upgrades JNN-N v2 (Spiral 5-7)
Fielded: DEC 07
Target Audience: 25Q10, 25S10

9. CPN Upgrades JNN-N v2 (Spiral 5-7)
Fielded: DEC 07
Target Audience: 25B10

10. Baseband Upgrades (Spiral 5-7)
Fielded: DEC 07
Target Audience: 25N10

11. JNN-N v3 Upgrade Lot 9 (Spiral 8)
Fielded: DEC 07
Target Audience: 25N10, 25B10

12. CPN Upgrades Lot 9 (Spiral 8)
Fielded: DEC 07
Target Audience: 25B10

13. JNN-N v3 Baseband Upgrades Lot 9 (Spiral 8)
Fielded: DEC 07
Target Audience: 25N10

14. AN/TSC- 85/93
Fielded: MAY 07
Target Audience: 25S10

15. Phoenix (Version A)
Fielded: APR 07
Target Audience: 25S10

16. LAN/WAN
Fielded: APR 07
Target Audience: 25B30 TATS-C, C, F, L, P, Q, S, U,
W, 250N, 251A, 53A, 25A LT/CPT

17. SATCOM Hub Upgrades (S 5-7)
Fielded: MAR 07
Target Audience: 25S10

18. JNTC-S- INC 2
Fielded: FEB 06
Target Audience: 25N10, 25B10

19. JNN (S 1)
Fielded: OCT 05
Target Audience: 25N10

20. JNN-1 (Spiral 5-7)
Fielded: OCT 05
Target Audience: 25B10

21. JNN-1 (Spiral 5-7)
Fielded: OCT 05
Target Audience: 25Q10

22. DTOC
Fielded: OCT 05
Target Audience: 25B10

23. TIMS (ISYSCON)
Fielded: OCT 05
Target Audience: 25B10

24. HCLOS
Fielded: OCT 05
Target Audience: 25Q10

25. GSC-52
Fielded: JAN 04
Target Audience: 25S10

26. BSN
Fielded: OCT 04
Target Audience: 25F10, Q10, P10

27. FBCB2
Fielded: OCT 03
Target Audience: 25U

28. TRC-173
Fielded: NOV 01
Target Audience: 25P10, Q10

For more information on the status of virtual/PC-based simulator training products, contact Mr. Patrick Baker, Digital Training Division chief, DOT at DSN 780-0221 or commercial at (706) 791-0221.

ACRONYM QuickScan

AC – Active Component
AKO – Army knowledge Online
BAMC – Brooke Army Medical Center
CAC – Common Access Card
CBT – computer-based training
CCNA – CISCO Certified Network Associate
COTS – Commercial Off-the-Shelf
DA – Department of the Army
dL – Distributed Learning
DLS – Distance Learning System
DOL - Department of Labor
DOT – Directorate of Training
DSN – Defense Switched Network
DTF – Digital Training Facility
FAQs – Frequently Asked Questions
IA – Information Assurance
IMI – Interactive multimedia Speciality
IT – Information Technology

LCMS – Learning Content Management System
LLC – Lifelong Learning Center
LWN-eU – LandWarNet-eUniversity
NEC – Network Enterprise Center
NMCSD – Naval Army Medical Center
ODEP- Office of Disability Employment Policy
PC – Personal Computer
RC – Reserve Component
SFC – Sergeant First Class
TTA – Transition Training Academy
VoIP – Voice over Internet protocol
VTT – Video Teletraining
WT – Warrior in Transition

MET Antenna Array upgrade

By Frank Stein

Satellite terminals around the world are set to get a needed upgrade.

The current family of fixed station Enterprise Satellite Terminals provides the primary support for global reach-back communications to Joint Task Force operations. This family includes the AN/GSC-39, AN/GSC-52, AN/FSC-78, and AN/TSC-86 terminals.

However, these terminals are at or near their design end-of-life cycles. To extend the capability they provide at least through 2025, these terminals are undergoing a complete refurbishment and upgrade. The program is called the Modernization of Enterprise Terminals.

The MET program will extend the life of the Enterprise Terminal Family, reduce life cycle costs, and integrate these terminals into the Global Information Grid communications infrastructure and Network Management and Control Systems. The MET program will upgrade and modernize the aging terminals with X-Band and X/Ka-Band capabilities to operate with the new Wideband Global Satellite constellation, XTAR satellites, and with legacy satellite systems.

Under a full and open competition, Harris Corporation, an international communications and information technology company based in Melbourne, Fla. was awarded a five-year contract for the MET program in April 2009. Delivery of the first terminals is scheduled in late 2011.

The MET includes three basic configurations: a large, fixed ground terminal with a 12.2 meter antenna that provides X-band only or simultaneous X and Ka band operations; a transportable terminal with a 7.2 meter antenna; and a small, fixed terminal with a 4.8 meter antenna. Both the transportable and the small, fixed terminals provide dual X/Ka-band operation.

The MET program will provide a total modernization of all equipment and systems from the antenna to the Intermediate Frequency input/output. The earth terminal antennas, radio frequency components, Control, Monitor and Alarm system, equipment shelters, and interconnect facilities will be modernized and/or replaced. The primary IF will operate at L-band, but a 70 MHz to L-band conversion function will be provided for legacy modems.

The MET program does not include modems or baseband equipment. Fixed variants will be installed in existing facilities. Other options include a High Altitude Electromagnetic Pulse mitigation capability, simultaneous polarization operation at Ka-band, an L-band matrix switch, radome and deicer.
MET terminals will support the large volume and diversity of command and control, intelligence, fire support, air defense and logistics traffic requirements demanded by split base operations. Currently, they cannot be satisfied with the present enterprise terminals in the quantity required.

The MET system design will facilitate ease of training and system operation, while minimizing training costs and time. The SATCOM facilities at Fort Gordon will receive three large fixed MET terminals and a full training simulator which will provide training of all service personnel with the 25S Military Occupational Specialty or equivalent. Training materials will be developed for all new systems and subsystems using government-approved contractor documentation. Training Support Packages will be designed and developed by the material developer for MET Instructor and Key Personnel and New Equipment Training. These packages will be reusable for resident training and distributed learning. An Interactive Electronic Technical Manual will be developed by the contractor and verified by government personnel.

Training simulation scenarios will be developed in order to train students to operate, maintain, and troubleshoot the terminals. The training simulator will provide realistic and challenging training on the equipment. Two versions of the training simulator, the Shareable Content Object Reference Model version and the standalone version, will be developed. The standalone version will be available for download to any personal computer for local refresher training. The SCORM® version will be available as a course on the Blackboard® server located at U.S. Army Signal Center at Fort Gordon.

The training simulation will cover operation principles and procedures, characteristics, capabilities, limitations, key maintenance, and troubleshooting as reflected in the approved MET technical documentation. The training simulator will address the four training elements--familiarization, instruction, practice and assessment. The MET simulator will be used on e-LandWarNet for sustainment and on-the-job training. Fort Gordon will use it for classroom/resident training.

Bridging the gap between the deployed forces and the power projection platform is vital to Joint Task Force operations. The Fixed Enterprise Terminal communications capability must keep pace with the evolution of a global projection military force. These terminals, upgraded and improved under the MET program, will be a critical component in the migration to the full WGS constellation. It will dramatically improve and expand critical reach-back capability for the Warfighter.

POC for MET is Mr. Frank Stein, TRADOC capabilities manager for Satellites and Network Extension, Fort Gordon, Ga. and PM DCATS support contractor. He can be reached at frank.stein@us.army.mil.

Signals

Enlisted news ... officer news ... warrant-officer news -- from the enlisted and officer divisions at Office Chief of Signal, Fort Gordon, Ga.

25E Electromagnetic Spectrum Manager

By SFC David W. Gillon

Here is an opportunity that offers some great benefits to staff sergeants eligible for reclassification to the 25E Electronic Spectrum Manager military occupational specialty. Earlier this year, the Signal regiment command sergeant major spread the news and invited eligible staff sergeants to investigate this tremendous opportunity for a bonus and advancement potential. The 25E MOS is included in the Bonus Extension and Retraining Program.

On 3 June 2009 Human Resources Command released MILPER Message 09-124, "Announcement of Reclassification Procedures for MOS 25E". This message clarified some of the confusion regarding eligibility, specifically the IN/OUT Calls. Paragraph 2 specifically states that any otherwise eligible Soldier who is in a balanced MOS may request reclassification into MOS 25E regardless of a "No" in the "OUT" column.

Those in shortage MOSs are not eligible to reclassify at this time due to the Army's identified critical need for them in their current MOS. The MILPER message also emphasizes the prerequisites for reclassification into 25E.

Some of the qualifications may be waived and some cannot. I study each application carefully and will either recommend a waiver or explain to you why I cannot. Two items which I'm compelled to include here are promotable status and bonuses. These are the most prevalent barriers that I've encountered in my attempts to assist eligible Soldiers who wish to convert to 25E. The rank at which Soldiers are allowed to reclassify to 25E is staff sergeant, not staff sergeant promotable. A staff sergeant promotable must be slotted as sergeant first class.

The operating strength of 25E at SFC is too near 100% to allow reclassification actions at this time. If a Soldier has received payment of a cash incentive bonus, which carried an obligation to remain in a specific MOS for a specific period of time, then the retention branch at HRC must release that Soldier from the obligation in order for the Soldier to avoid any recoupment actions. In short, I can't release you from your bonus obligation.

Here is a factor that is important to consider. While promotions are never guaranteed, it is noteworthy that the FY09 SFC Promotion Board selected every eligible SSG at that time for promotion to SFC. Authorizations are projected to increase 21% in FY10, which may create a shortage of 25E SFC. Based on current projections and past board results, it is up to you to weigh the promotion potential for yourself.

Additionally, in April 2008, we discovered 25E documentation issues that have slowed the growth of the MOS. One of the problems was that up to six ASCC SGM positions where still miscoded as 25W E8 with the ASI D9 removed. We have since submitted actions to get the various documentation problems fixed, but overall it's still a lengthy process.

For more information contact your unit retention NCO or SFC David W. Gillon (david-gillon@conus.army.mil; DSN 780-8192, Office Chief of Signal career manager.

SFC Gillon is the career manager for MOS 25C/25E/25F/25N for the Office Chief of Signal, Fort Gordon, Ga.

LandWarNet-The Next Generation

DEPARTMENT OF THE ARMY
OFFICE OF THE SECRETARY OF THE ARMY
107 ARMY PENTAGON
WASHINGTON DC 20310-0107

Office, Chief Information Officer / G-6

Lt. Gen. Jeffrey A. Sorenson, U.S. Army Chief Information Officer/G-6, during his speech at the LandWarNet Conference on Aug. 18 at the Broward County Convention Center, Fort Lauderdale, Fla.

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: The Global Network Enterprise Construct (GNEC) – Transforming LandWarNet

1. After eight years of war, we are a fundamentally different Army. While conducting wartime operations we are also embarking on the largest transformation of the Army since WWII. The transformation process will result in an Army that is a versatile, expeditionary force capable of full spectrum operations. The Army's responsiveness is dependent on those expeditionary capabilities and the network's ability to support the transition of our forces anywhere in the world. To support an expeditionary Army, we must also fundamentally change and adapt our institutions, including LandWarNet--the Army's portion of the Global Information Grid. The Army Chief of Staff recognized the need to transform LandWarNet and has charged the Army CIO/G6, in cooperation with our LandWarNet partners across the Army to reshape the Army's existing network and battle command components into the Army's first enterprise activity. As articulated in the Army Posture Statement and the supporting Army Campaign Plan, transforming LandWarNet is a critical Army institutional adaptation initiative.

2. Over the next three years, the Army will transform LandWarNet to a centralized, more secure, operationalized, and sustainable network using the Global Network Enterprise Construct (GNEC). Operational environment complexities and increasing demands by Army, joint, interagency, intergovernmental and multinational mission partners to receive the right information, at the right time has elevated the importance of network access, control, and utilization. Key to providing the Army with an expeditionary capability is the need to operationalize LandWarNet; transforming to deliver a global, standardized, protected and economical network enterprise that is centralized, more secure, sustainable, and capable of seamlessly delivering network capabilities and services as Warfighters transition throughout all operational phases.

3. GNEC is an Army-wide strategy to transform LandWarNet to an enterprise activity, focusing on four principle objectives: (1) Operationalize LandWarNet, (2) Dramatically improve the LandWarNet defense posture, (3) Realize economies and efficiencies while improving effectiveness, and (4) Enable Army Interoperability and collaboration with mission partners. The establishment of the Army global network enterprise requires dramatic changes to our current processes and network operations. GNEC will consolidate loosely affiliated, independent networks into a true global enterprise that transforms LandWarNet into a single information environment with global access, standard infrastructures, and common policies/standards that ultimately provide information services from the generating force to the tactical edge. In the end, all Army generating force networks will be managed by a single command (Network Enterprise Technology Command (NETCOM/9th Signal Command (Army)) organizing Army information to make it globally accessible, useful and secure for Soldiers deployed anywhere in the world.

JEFFREY A. SORENSON
Lieutenant General, GS
Chief Information Officer/G-6

Army COMMUNICATOR